COTTON

DEC. SERVING THE 1942

Textile Industries

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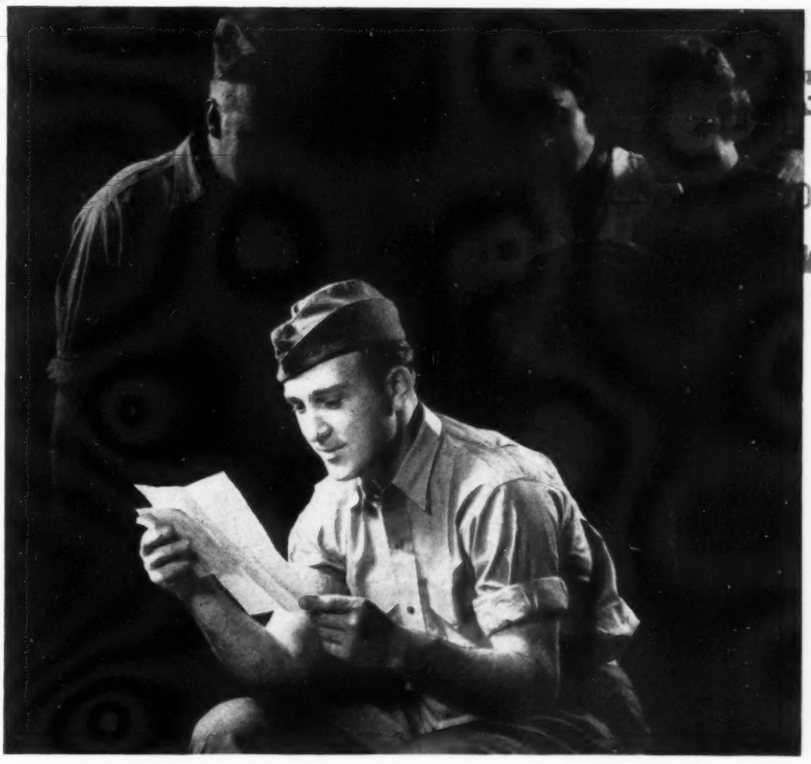


With hearts full of thanks that American families are privileged to have Christmas—

With deep appreciation of the sacrifices millions of our men and women are making—

With thanks for your understanding and cooperation, in placing War needs first—

With utmost faith in the future of our Country—

We cordially extend the greetings of the season.

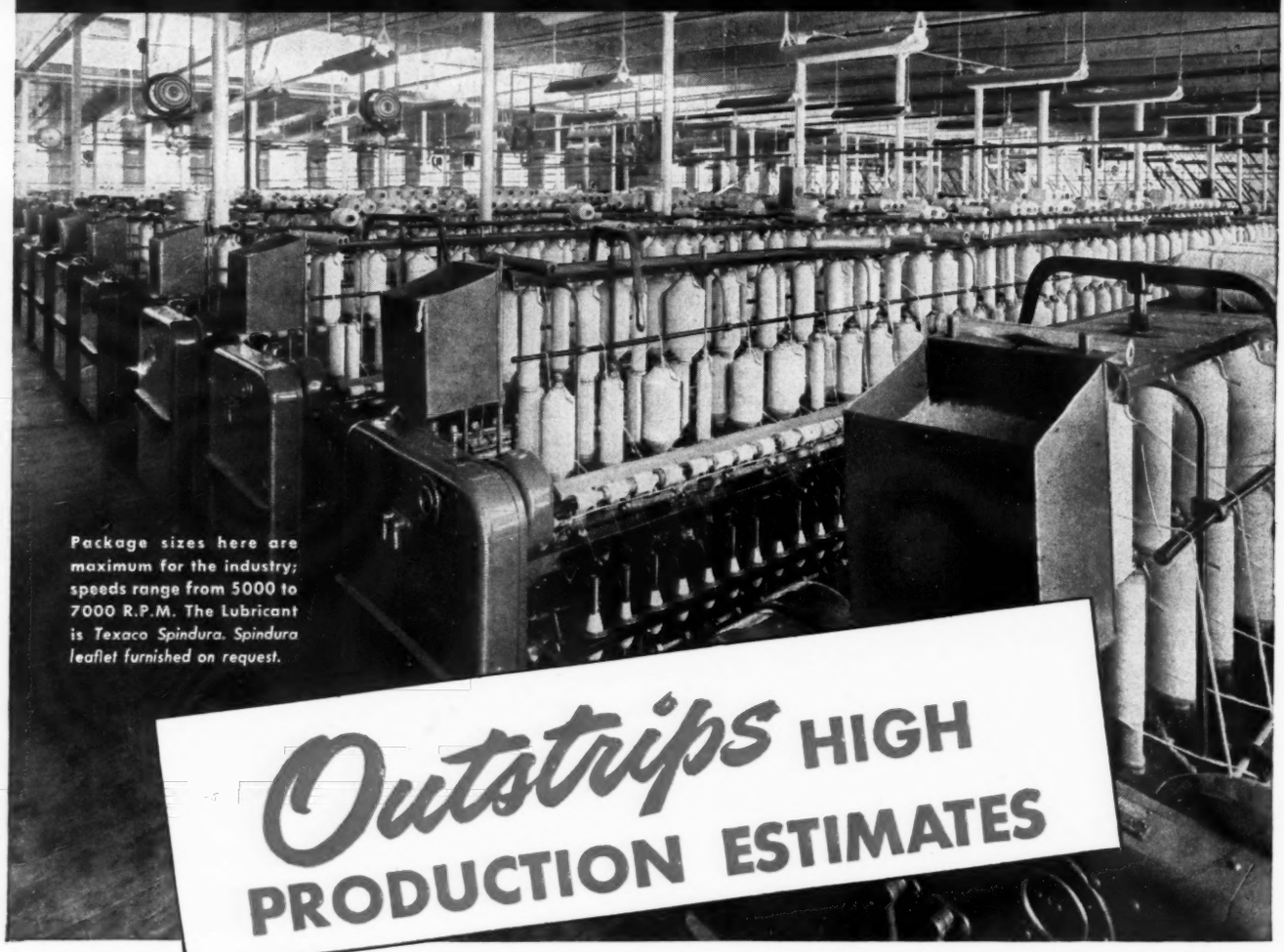
OF DIXIE'S PAYROLL 10% IS INVESTED IN WAR BONDS

AMERICAN COTTON MADE IN U·S·A

Dixie MERCERIZING CO., Chattanooga, Tenn.

Dixie Durene . . . A Product of Controlled Manufacture

New 1942 extra-heavy package mill...



Package sizes here are maximum for the industry; speeds range from 5000 to 7000 R.P.M. The Lubricant is *Texaco Spindura*. *Spindura* leaflet furnished on request.

Outstrips HIGH PRODUCTION ESTIMATES

THOUSANDS of bearings in this ultra modern mill have passed through the crucial "break-in" period on into all-out production with great efficiency ... lubricated 100% with Texaco.

Operating the most modern high-speed, heavy-package machinery, Quaker Meadow Mills, Inc.. Hildebran, N. C., provides a preview of postwar efficiency. Even now, yarn production outstrips the original high estimates, proving the fitness of *Texaco Spindura* and *Stazon* lubricants.

The outstanding performance that has made Texaco preferred in the fields listed in the panel has made it preferred by prominent mills in every textile area.

These Texaco users enjoy many benefits that can also be yours. A Texaco Lubrication Engineer will gladly cooperate . . . just phone the nearest of more than 2300 Texaco distributing points in the 48 States. or write:

☆ ☆ ☆

The Texas Company, 135 East 42nd Street, New York. N. Y.

THEY PREFER TEXACO

★ More Diesel horsepower on streamlined trains in the U. S. is lubricated with Texaco than with all other brands combined.

★ More locomotives and cars in the U. S. are lubricated with Texaco than with any other brand.

★ More revenue airline miles in the U. S. are flown with Texaco than with any other brand.

★ More buses, more bus lines and more bus-miles are lubricated with Texaco than with any other brand.

★ More stationary Diesel horsepower in the U. S. is lubricated with Texaco than with any other brand.

TEXACO REG. T.M.

TEXACO Lubricants

FOR THE TEXTILE INDUSTRY

HELP WIN THE WAR BY RETURNING EMPTY DRUMS PROMPTLY

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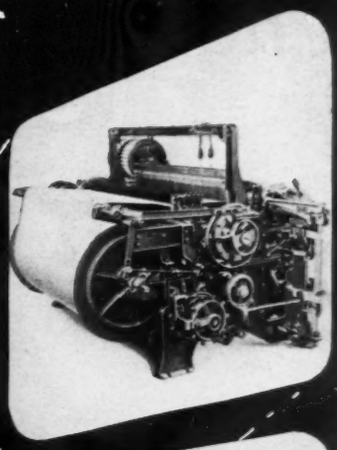
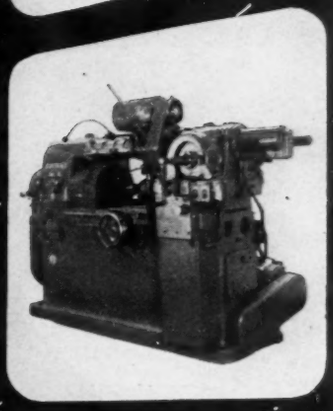
Volume 106. No. 12.

1942

A Year of Momentous Changes in Draper Products



One Year Ago — We were at Peace and our shops Were building Machines of Peace



War Threatened — The Defense Program was on and We began to build Machine Tools

Pearl Harbor — And our Peacetime Products were Replaced by Implements of War

After the War—Better Looms

Our Present Job is to Carry On in the War Program
and to Help You Carry On by assisting you to
Keep Your Looms Running on Your War Products

DRAPER CORPORATION

Atlanta Georgia Hopedale Massachusetts Spartanburg S C

The True Meaning and Value of a **TRADE MARK** *to You*

Guarantees Perfection—
Dependability—
Accuracy—
Service—
Satisfaction—
Superiority—

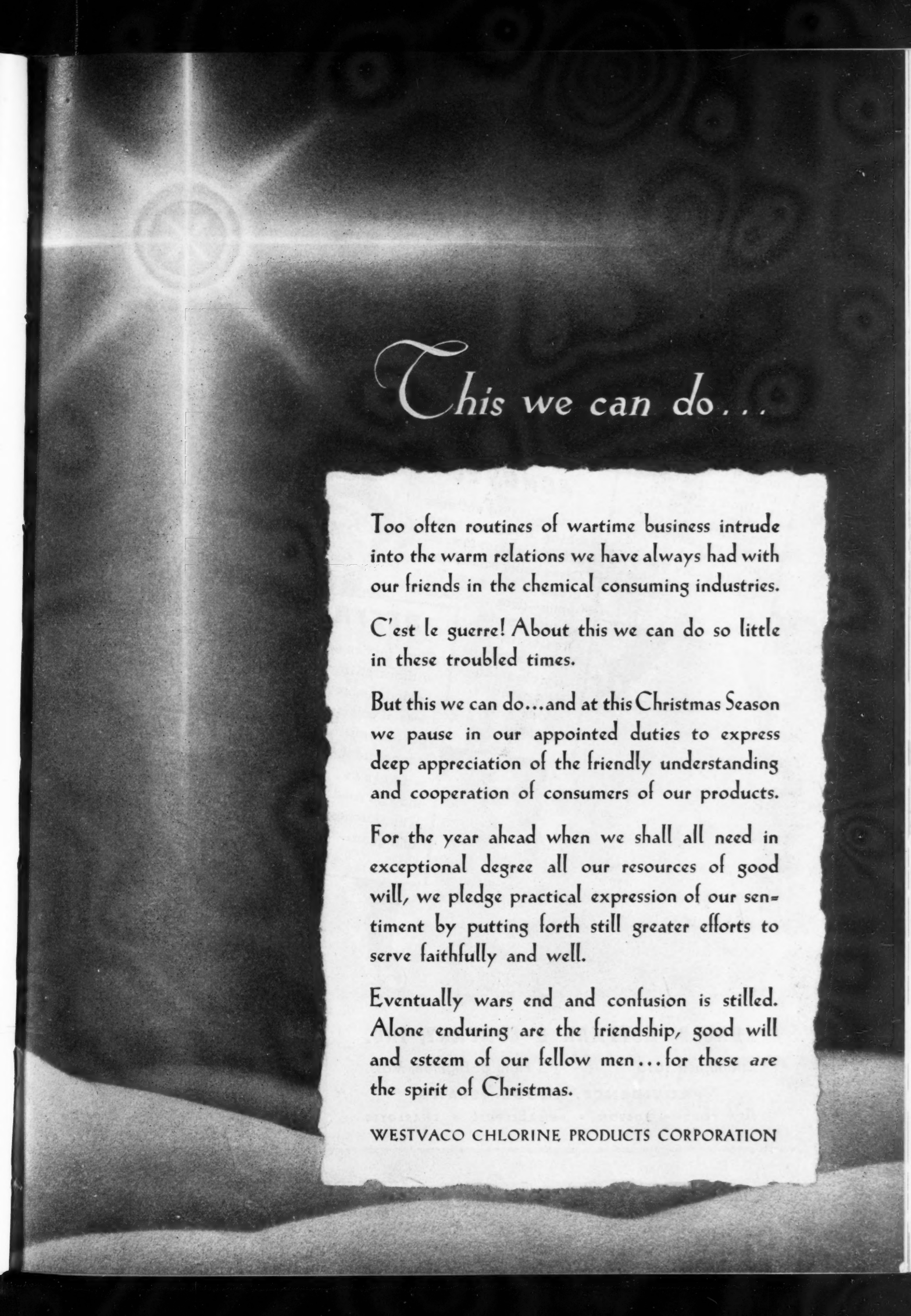
You may depend on the recommendation of our Field Engineer as to the loom harness unit most suitable to the fabric to be woven.

STEEL HEDDLE MFG. CO.

BRANCH OFFICES ALL OVER THE WORLD

Manufacturers of Superior
FLAT STEEL HEDDLES—HARNESS FRAMES—ALL TYPES OF LOOM REEDS—
TEMPERED DOGWOOD SHUTTLES—LOOM HARNESS ACCESSORIES
2100 W. Allegheny Avenue Philadelphia, Pa.

FIELD ENGINEERS IN EVERY DISTRICT


This we can do...
Too often routines of wartime business intrude into the warm relations we have always had with our friends in the chemical consuming industries.
C'est le guerre! About this we can do so little in these troubled times.
But this we can do...and at this Christmas Season we pause in our appointed duties to express deep appreciation of the friendly understanding and cooperation of consumers of our products.
For the year ahead when we shall all need in exceptional degree all our resources of good will, we pledge practical expression of our sentiment by putting forth still greater efforts to serve faithfully and well.
Eventually wars end and confusion is stilled. Alone enduring are the friendship, good will and esteem of our fellow men...for these *are* the spirit of Christmas.
WESTVACO CHLORINE PRODUCTS CORPORATION

THE AHCO PARADE OF TEXTILE FINISHING PROGRESS

AHCO
ACHOPEL
A water repellent emulsion which can be varied to suit requirements and made mildew resistant to Government specifications, if desired. Applied by the single bath method in quetch, padder, jig or beck. Does not destroy fabric porosity. Approved by John Q. Public many years before it passed the critical inspection of Uncle Sam.
ACHOVEL
A substantive softener which does not alter shades or light fastness. Gives better softness and drape at less cost. Pure white—does not discolor or turn rancid. Resistant to washing and dry cleaning. Non-greasy, odorless, easy to apply.
RESYNON
Gives fabrics extra body without stiffening. No baking. Improves brightness of colors; relatively permanent, economical, odorless; may be used with starches and gums.
CONCENTAL
for Softening Cottons and Rayons. Highly concentrated, it reduces shipping, storage and container costs. Relatively small quantities required. A COMPLETE softener, it eliminates many items of inventory. Penetrates deeply, lubricates effectively. Completely soluble in water at 135° or over, leaves no scum, compatible with all starches, waxes, gums and resinous materials. Does not deteriorate with heat or age. Highly stable in hot or cold solutions and in presence of acetic acid.

Also ask us about numerous other AHCO PRODUCTS for sizing and finishing.

ARNOLD, HOFFMAN & COMPANY, INC.

Established 1815 *Plant at Dighton, Mass.*

PROVIDENCE, RHODE ISLAND

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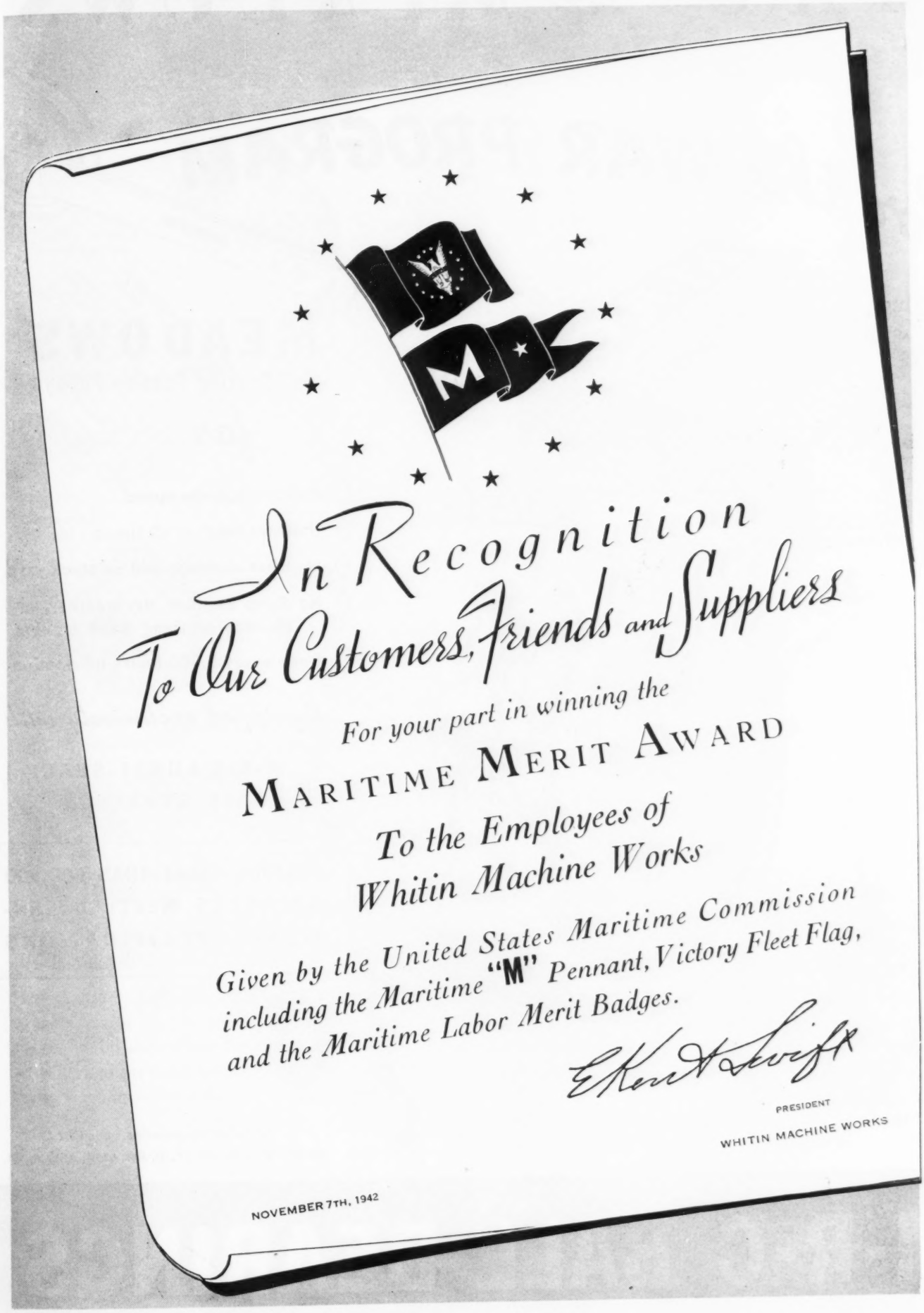
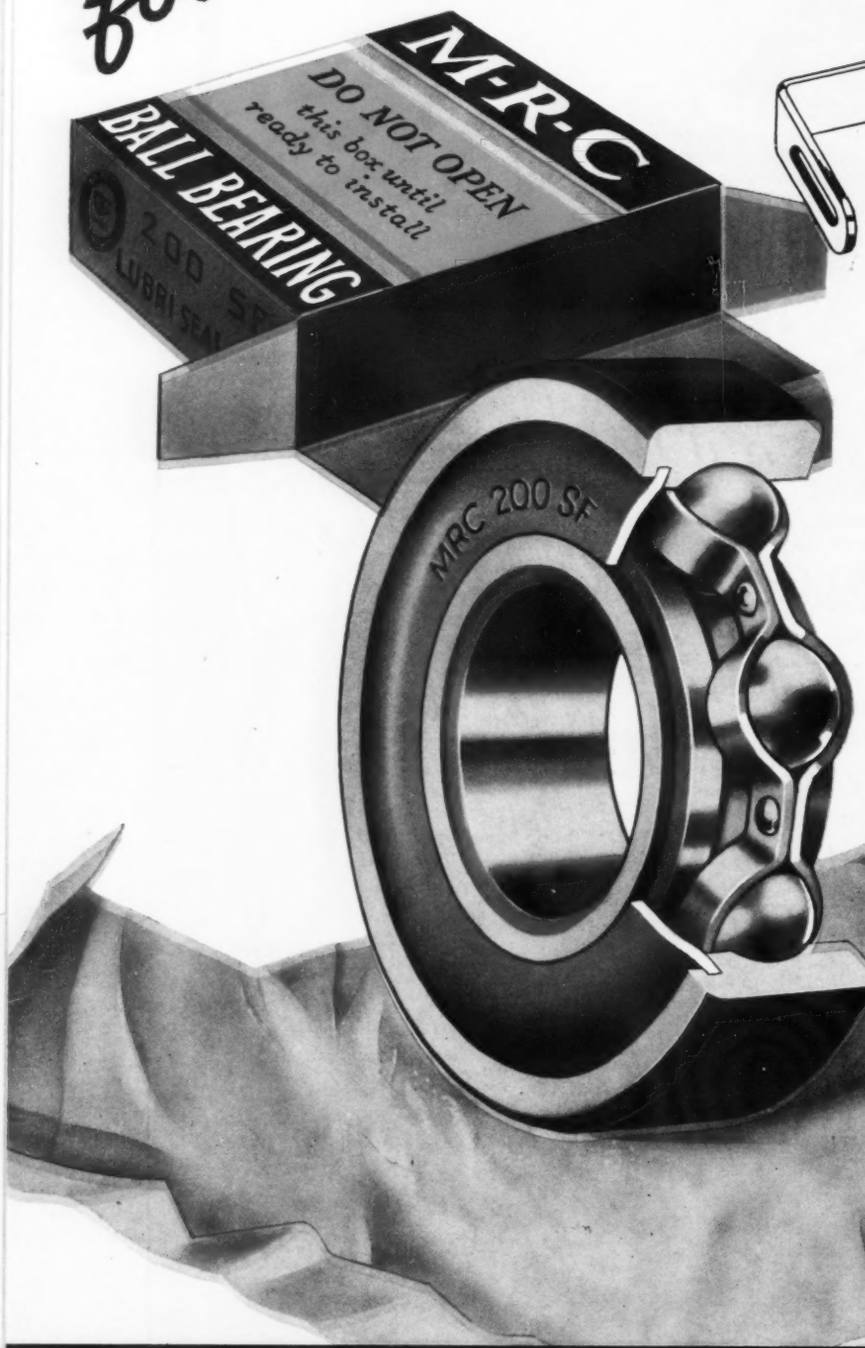
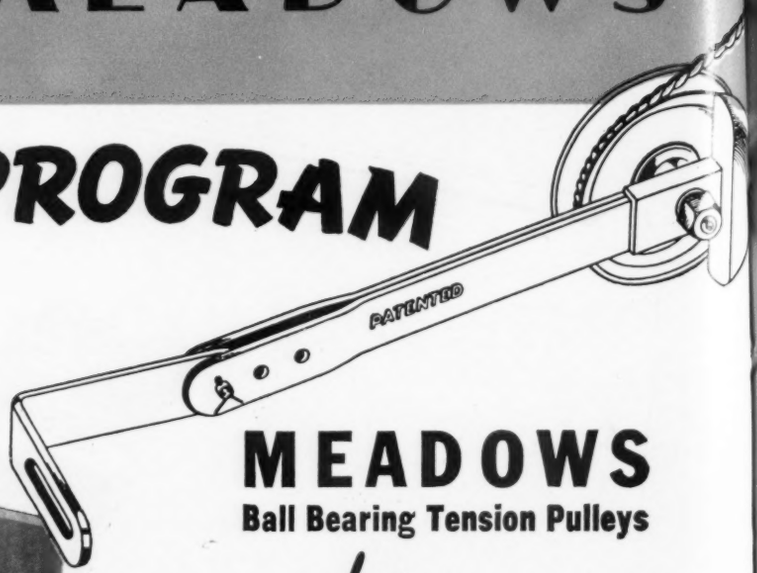

In Recognition
To Our Customers, Friends and Suppliers
For your part in winning the
MARITIME MERIT AWARD
To the Employees of
Whitin Machine Works
Given by the United States Maritime Commission
including the Maritime "M" Pennant, Victory Fleet Flag,
and the Maritime Labor Merit Badges.
PRESIDENT
WHITIN MACHINE WORKS
NOVEMBER 7TH, 1942

M-R-C and MEADOWS

for the WAR PROGRAM





MEADOWS
Ball Bearing Tension Pulleys

for

- **Uniform spindle speed**
- **Uniform twist at all times**
- **No band slippage and no slack yarn**
- **No damp weather, dry weather, or Monday morning band trouble**
- **Once every 5,000 hours lubrication**

Equipped exclusively with

M-R-C LUBRI-SEAL BALL BEARINGS

HELPING MORE THAN 600,000 SPINDLES MEET GOVERNMENT SPECIFICATIONS

Write for complete information to:
MEADOWS MFG. CO., P. O. Box 4354, Atlanta, Ga.

M-R-C BALL BEARINGS

MARLIN - ROCKWELL CORPORATION
Executive Offices: JAMESTOWN, N. Y.

The Amplex Division of Chrysler Corporation, which has for many years been manufacturing Oilite self-lubricating bearings, is now also in production on solid bronze and iron parts made from powdered metals.

Two Chrysler products are Stressite and Damascite, which can be used instead of castings, stampings, forgings or bar stock. Since these parts can be made in many forms, machining is almost entirely eliminated with resultant savings in cost of manufacturing and scrap.

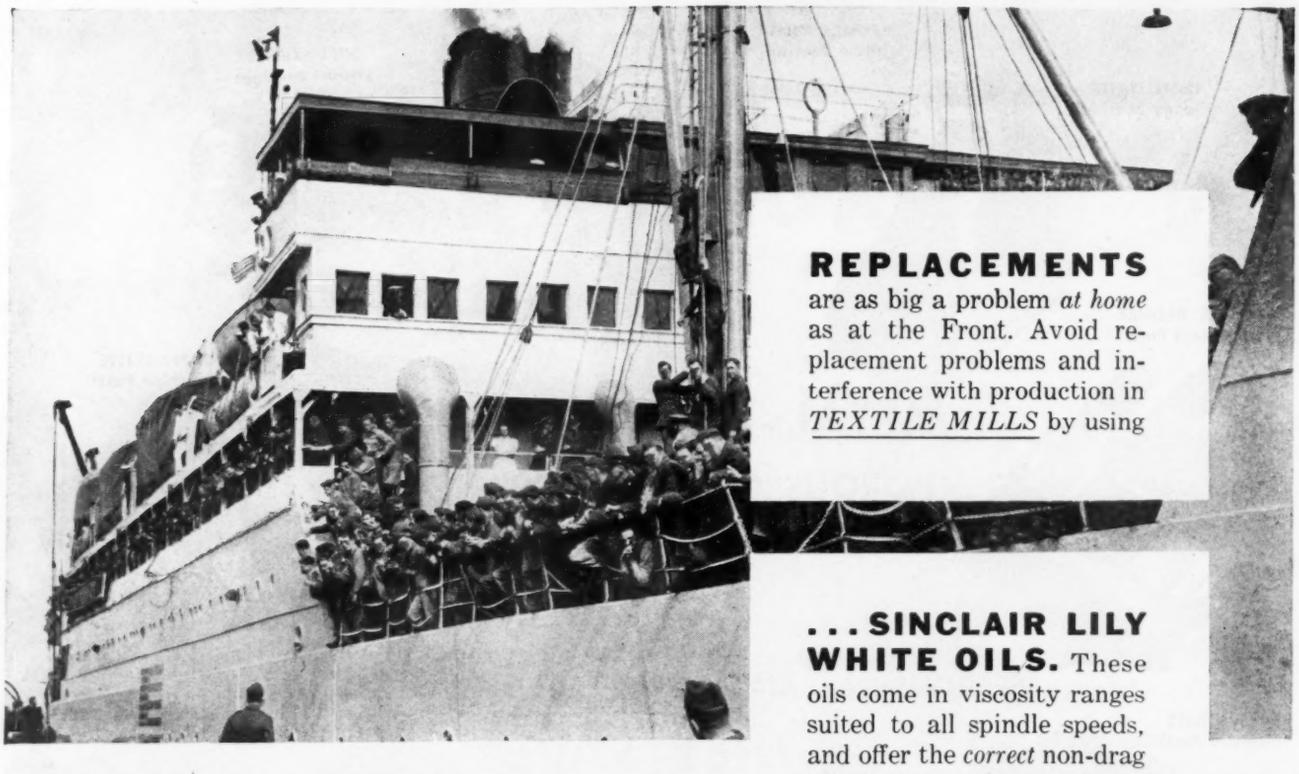
For example, on the instrument part made of Stressite bronze (illustrated above), two hours of machining alone used to be necessary. When the part was made from powdered metal, only twenty seconds were required to manufacture the product.

Our engineers are at your service.

CHRYSLER CORPORATION

(AMPLEX DIVISION)

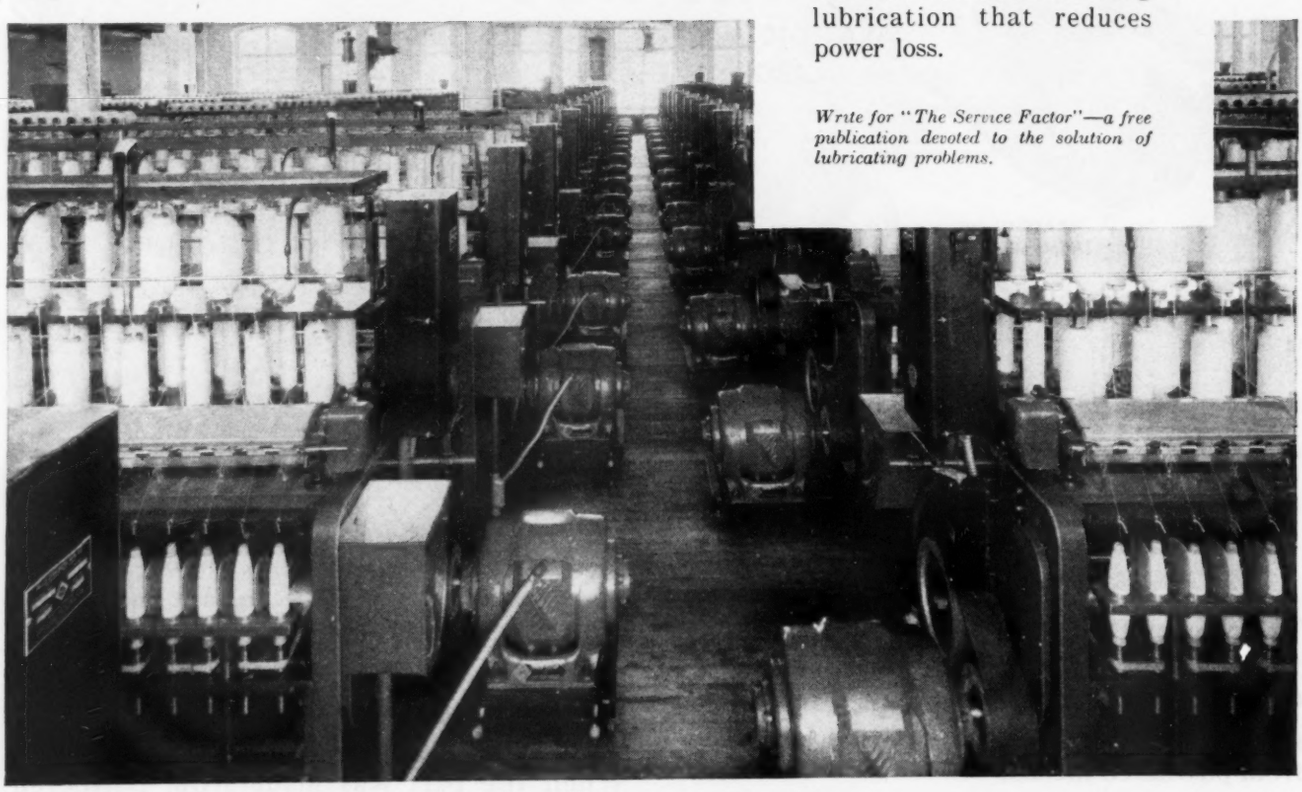
DETROIT, MICHIGAN



REPLACEMENTS are as big a problem *at home* as at the Front. Avoid replacement problems and interference with production in *TEXTILE MILLS* by using

...SINCLAIR LILY WHITE OILS. These oils come in viscosity ranges suited to all spindle speeds, and offer the *correct* non-drag lubrication that reduces power loss.

Write for "The Service Factor"—a free publication devoted to the solution of lubricating problems.



SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE NEAREST SINCLAIR OFFICE

SINCLAIR REFINING COMPANY (Inc.)

2540 West Cermak Road, Chicago • 10 West 51st Street, New York City • Rialto Bldg, Kansas City • 573 West Peachtree Street, Atlanta • Fair Building, Ft. Worth

ing groups of requirements:
The Department of Commerce suggests it is essential that each manufacturer of war goods have a blue print of exactly what he will do immediately following the war.
Of the three problems

IT'S TIME TO Saco-Lowell-ize*

Fortunately the survey of equipment, the assembling and analysis of operational data for blueprints and plans to Saco-Lowell-ize* are activities which can be carried on without interfering with production.

For this reason it is suggested that preliminary studies be started at once while there is ample time to plan wisely and carefully . . . and avoid unnecessary haste when new equipment will be urgently needed.

Tomorrow's progressive mill will be Saco-Lowell-ized*. . . ready with the most modern and efficient production line to meet conditions in the postwar era. Saco-Lowell engineers are anxious to cooperate with your own staff and assist at this time in preparing plans for the completion of such a program.

* **1.** To utilize floor space so as to achieve the ideal in continuity of production. **2.** To coordinate all successive steps in processing. **3.** To reduce waste, spoilage and useless transportation of stock. **4.** To attain the greatest economy in maintenance and operating costs.

SACO-LOWELL SHOPS

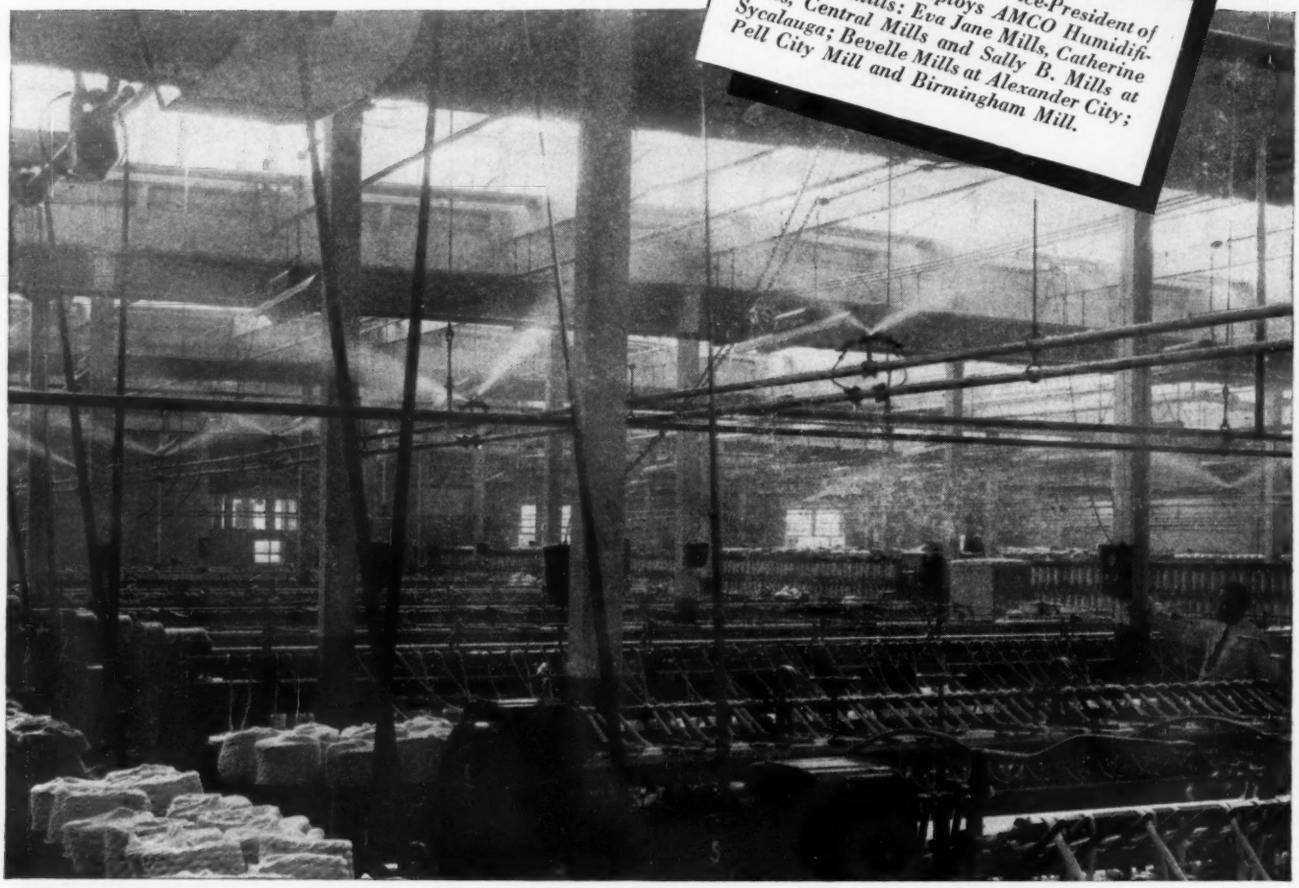
60 BATTERYMARCH ST., BOSTON, MASS.

Charlotte, N. C. *Greenville, S. C.* *Atlanta, Ga.*

"WE ARE DELIGHTED WITH THE AMCO INSTALLATION . . ."

says Hugh M. Comer of Avondale Mills

Hugh M. Comer, Executive Vice-President of Avondale Mills, employs AMCO Humidification in 7 mills: Eva Jane Mills, Catherine Mills, Central Mills and Sally B. Mills at Sycalauga; Bevelle Mills at Alexander City; Pell City Mill and Birmingham Mill.



In seven different units of Avondale Mills, AMCO Self-Cleaning Atomizers and Controls have recently replaced old humidifying systems. The important results are stated in a letter from Hugh M. Comer, Executive Vice-President of Avondale Mills:

"Since these jobs have been completed, we find that this atomizing equipment has greatly aided in increasing production, and has reduced to some extent the waste and seconds. We are delighted with the installation you have made."

This is typical of results in hundreds of other AMCO installations. Modern AMCO Atomizers deliver finely atomized spray in automatically controlled quantity, without drip or feathering down. They hold humidity on the button. And their self-cleaning feature for both the air and water nozzles reduces maintenance to a minimum.

Learn what AMCO can do to speed up production and cut costs on heavy war goods production in your plant. Let AMCO Engineers make a survey and report. American Moistening Company, Providence, R. I. — Atlanta, Boston, Charlotte.

Amco HUMIDIFICATION

THIS IS NO. 36 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

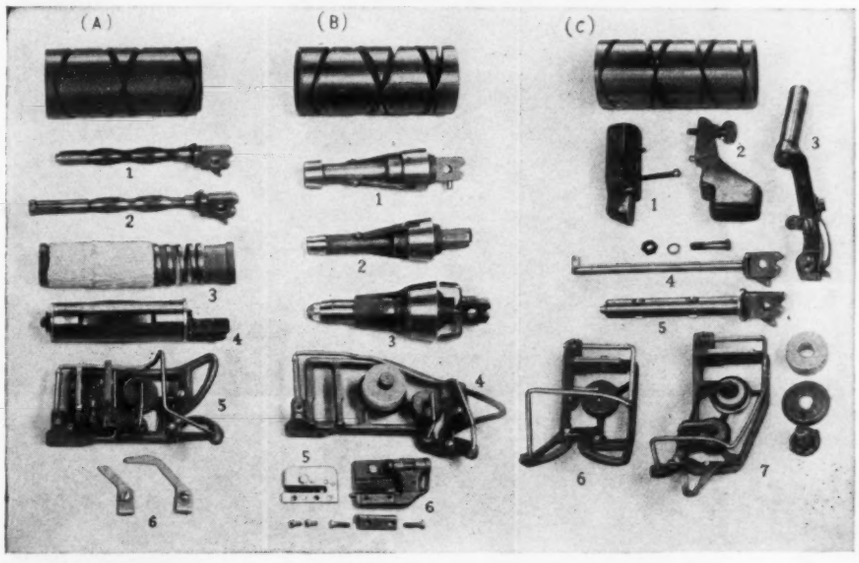


Fig. 1

ROTO-CONER* PARTS AND ATTACHMENTS

THE ROTATING TRAVERSE is a one-piece driving and traversing roll. There is a choice of three groove arrangements which govern the package shape. For parallel tubes, dye packages or wood tubes for twisting, the coils in the groove are uniformly spaced (A Fig. 1); for paper coning, the coils are "full-accelerated" (B Fig. 1); for wood coning, they are "5/8 accelerated" (C Fig. 1) — a more gradual change in spacing.

It is a simple matter to change from coning to tubing or vice versa. The traverse rolls are always dry and clean, and there are no greasy cams to handle.

TUBING FIG 1 (A)

(1) Holder for 5/8" paper tubes
(2) Holder for 5/8" perforated dye tubes
(3) Special wood plug adapter used with regular 5/8" holder for Franklin springs
(4) Holder for large-diameter (Obermaier) dye tubes
(5) Tension bracket with double slub catcher* (MacColl needle-type and blade-type or two blades)
(6) Traverse shortening finger for short-length packages and yarn waste guard for end of traverse

PAPER CONING FIG. 1 (B)

(1) Holder for 3°30′ cones
(2) Holder for 5°57′ cones
(3) Holder for 9°15′ or 9°36′ cones
(4) Tension bracket with paraffin and double slub catcher*
(5) Blade-type slub catcher*
(6) MacColl needle-type slub catcher*

WOOD CONING FIG. 1 (C)

(1) Extra pressure weight for use below cone holder arm
(2) Standard pressure weight for use above cone holder arm
(3) Spindle holder arm
(4) 3/8" bare spindle for wood twister tubes
(5) Standard spindle with Oilite bronze bushing for wood cones or wood tubes
(6) Tension bracket with single blade slub catcher* (or MacColl)
(7) Tension bracket with paraffin and single slub catcher* (either type); bracket shows double disc tension (with paraffin removed, another tension disc can be used on this post)

*The Slub Catchers are the "Precision" type; accurate and parallel settings are easy to make and keep.

SUPPLY SPINDLES

The supply holder is adjustable to accommodate various lengths of bobbins. The spindle is adjustable in the holder. A special rod can be added when vertical spindles are required.

EMPTY BOBBIN CONVEYOR

A conveyor at each side of winder reduces work for the operator and saves space. Empty bobbins removed from the supply spindles are placed on the conveyor and are carried to the end of the machine where they are accumulated in empty bobbin boxes. Bobbins of different types can be used on either side without danger of getting mixed when removed from the winder. A deflector can be added on the middle of the machine for separating two or more types of bobbins.

SUPPLY SHELVES

For production of knitting cones, the double top shelf provides space for bobbins and finished packages; a guard rail below protects the tension bracket. For wood coning, the bobbin box is placed below the spindle, and the single top shelf is used for cones.

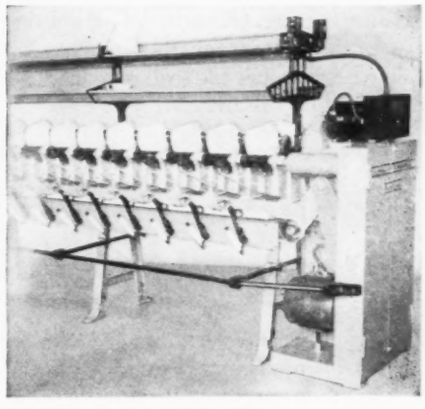


Fig. 2

Approximate winding speeds:

750 y.p.m. ..... Wood cones
550 y.p.m. ..... Paper cones and tubes
325 to 500 y.p.m. ..... Dyeing packages

See our Catalog in TEXTILE YEARBOOK

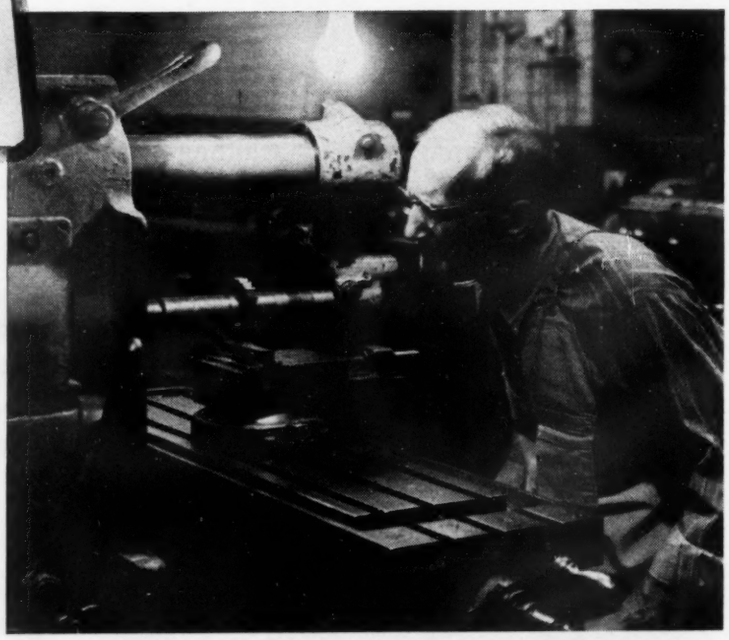
"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

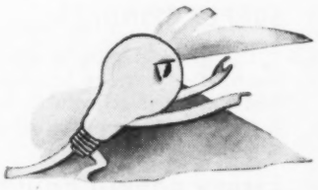
PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

*Reg. U. S. Pat. Off.

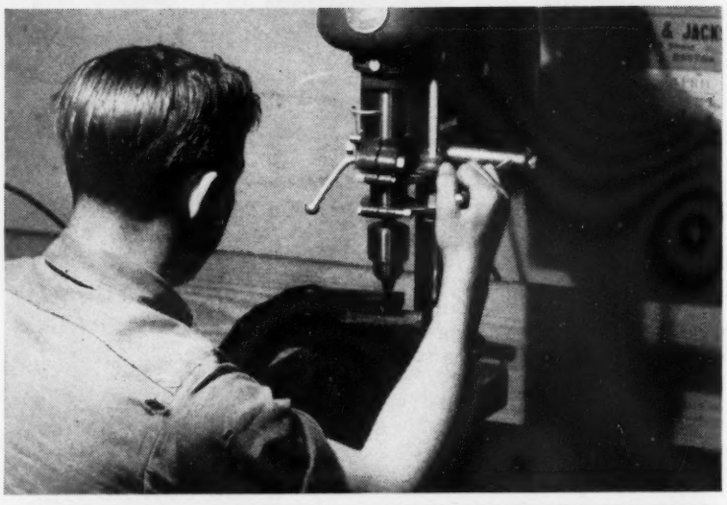
ARE THESE 3 SABOTEURS ON YOUR PAYROLL?



GLARE

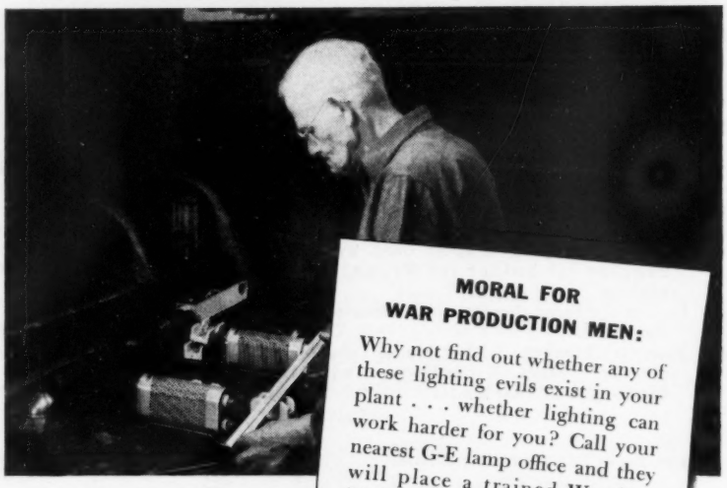


These 3 "Saboteurs" can slow up production on any night shift. First—and worst—is *glare* in workers' eyes. Glare from bare or poorly shaded lamps, or from shiny metal surfaces, can hasten fatigue and breed spoilage and accidents. Glare can often be corrected merely by making a few simple changes in existing lighting.



SHADOWS

Shadows on the work are the bane of every mechanic's life. They make it almost impossible to work to the new close tolerances demanded in war production. The remedy may be supplementary lighting on machines. Or raising or lowering existing fixtures. Or both. A G-E lighting engineer can probably tell you the answer. And the last thing he has any idea of is to try to sell you a new lighting installation!



DIRT

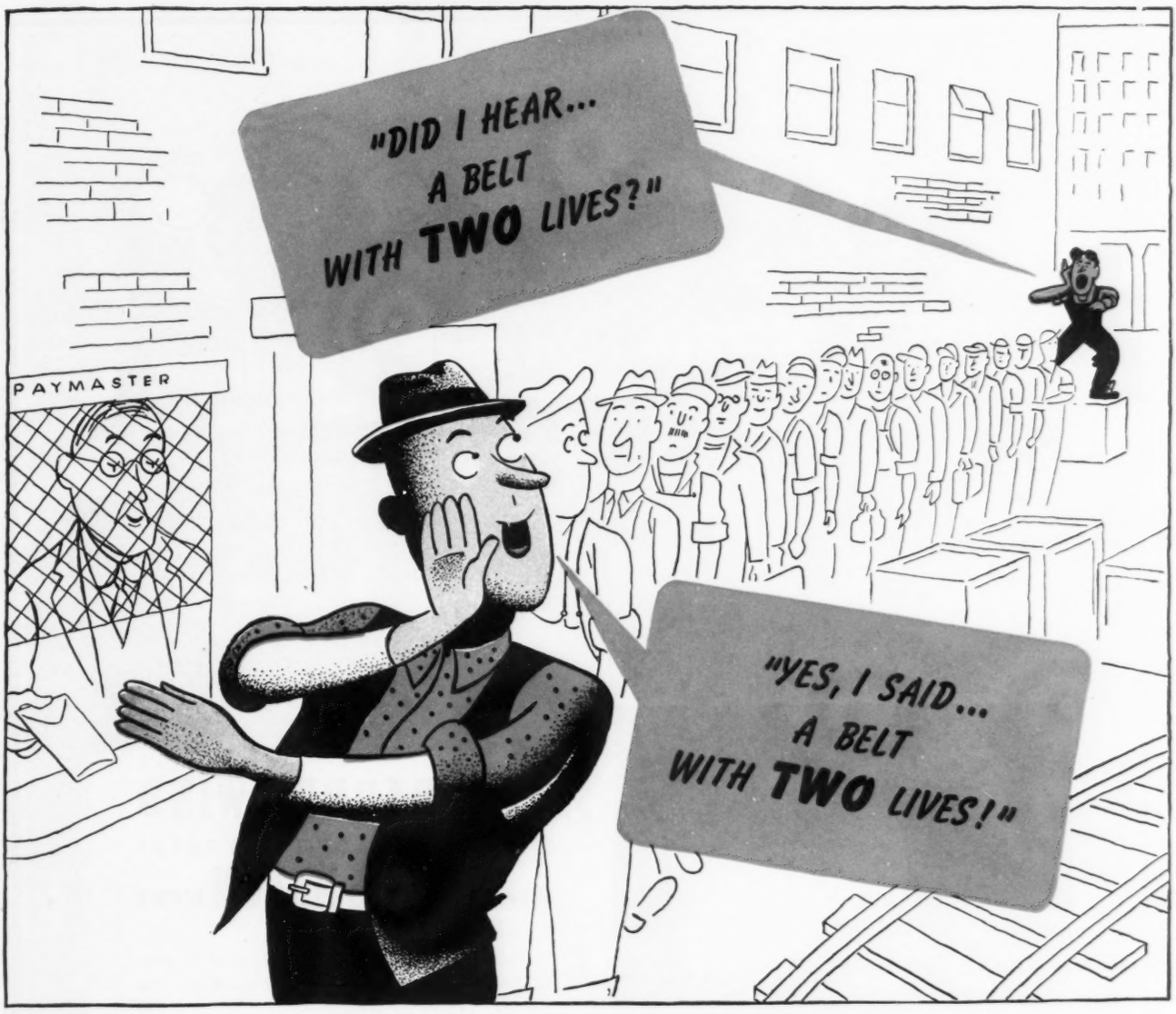
Dirt on lamps, fixtures and walls can sabotage the best lighting ever installed! In some cases, light output of brand new G-E fluorescent lighting installations dropped off 50% in a short time simply because no one cleaned the lamps and fixtures. A G-E lighting engineer can help you start a regular maintenance program. Help you get full light from every dollar's worth of lamps and electricity!

MORAL FOR WAR PRODUCTION MEN:

Why not find out whether any of these lighting evils exist in your plant . . . whether lighting can work harder for you? Call your nearest G-E lamp office and they will place a trained Wartime Lighting Counsellor at your service. Or see your local electric service company or your G-E lamp supplier.

G-E MAZDA LAMPS

GENERAL ELECTRIC

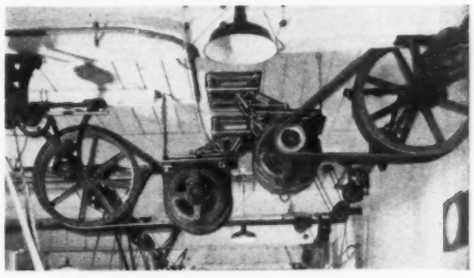


Research Leather Belting on "Production Drive" Gives Double Life over Rubber V-Belts

Why leather? Because "The life of a first-quality leather belt on a pivoted motor drive is ordinarily *two or more times* as great as the life of a rubber V-belt on a corresponding drive." The authority is *"Fifty Reports on Mechanical Power Transmission from Motor Drive to Industry"* by Robert Drake.

Why Research? Because it runs with less tension than other leather belts—due to its "built-in" pulley grip and low stretch. It takes the small pulleys without costly "flexing-wear," because the leather is extra-pliable; "tension-cementing" assures ply adhesion.

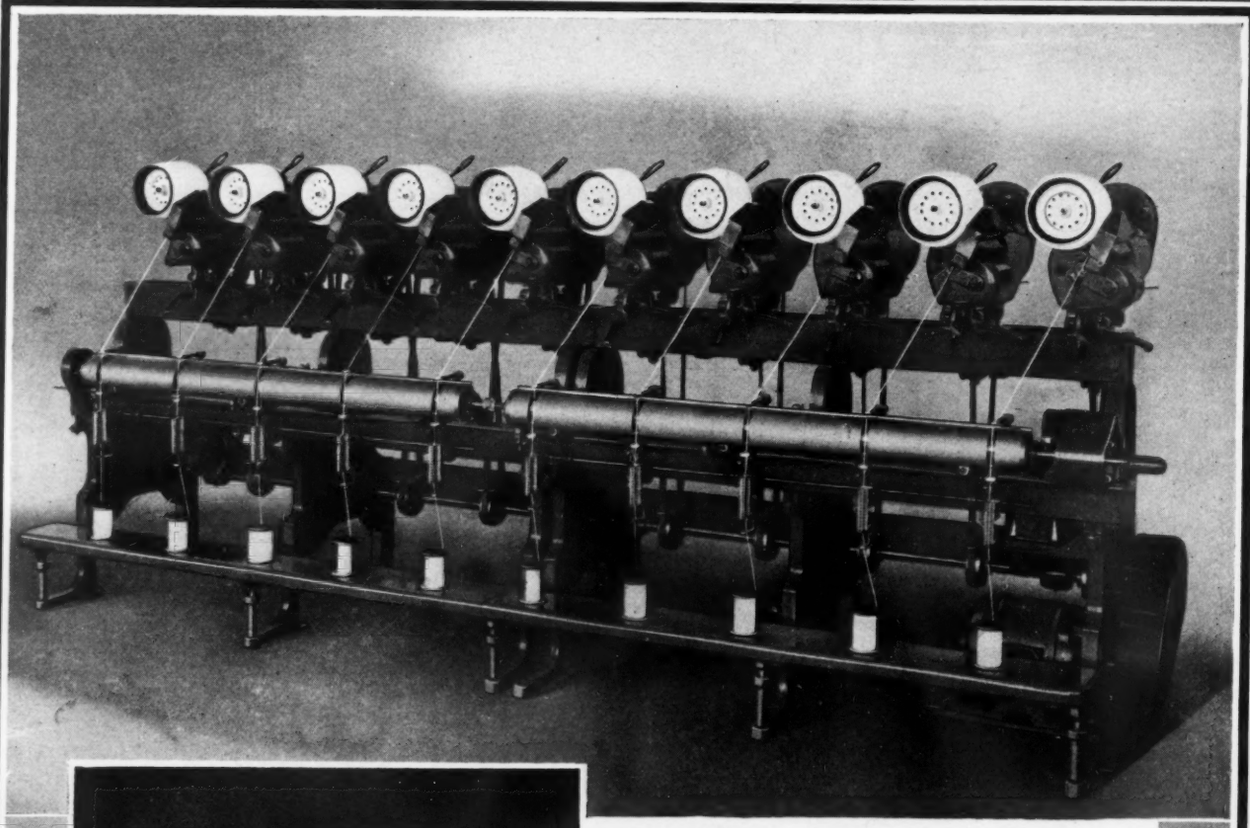
A more expensive belt can't give you more.
No other belt can give you as much.

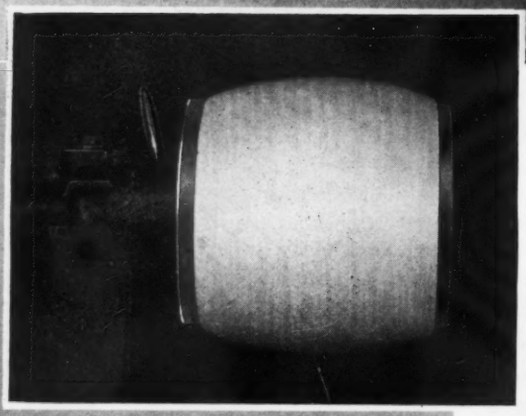


Research Leather Belting on Pivoted Motor Base Drive (Production Drive)

GRATON & KNIGHT CO. Worcester, Massachusetts

Graton & Knight also manufactures The Orange Line *of textile products made from G&K's own "American-tanned" Hairy Leather. Distributors listed on G&K page in* THOMAS' REGISTER





The New BARREL WIND SIZING PACKAGE IS AN IDEAL SUPPLY FOR CONING NYLON DIRECT

1. SMOOTH DELIVERY on the coner is permitted by the oval shape of the package; no decided tapers or shoulders.
2. UNIFORM STEAMING & DRYING are possible because the central part of the traverse, where the package is thickest, is wound more open than the ends.
3. UNIFORM SIZING on the Model 76 machine is obtained by a slow traversing sizing roll drive, which traverses the roll as slowly as 2 inches in 13 hours; and because of the absolute lack of vibration in the sizing roll shaft.
4. INCREASED PRODUCTION is effected because the design of the barrel wind device permits substantially higher operating speeds than in the past.

FOR EFFICIENT NYLON SIZING *and* FOR AN IDEAL CONING SUPPLY, SPECIFY

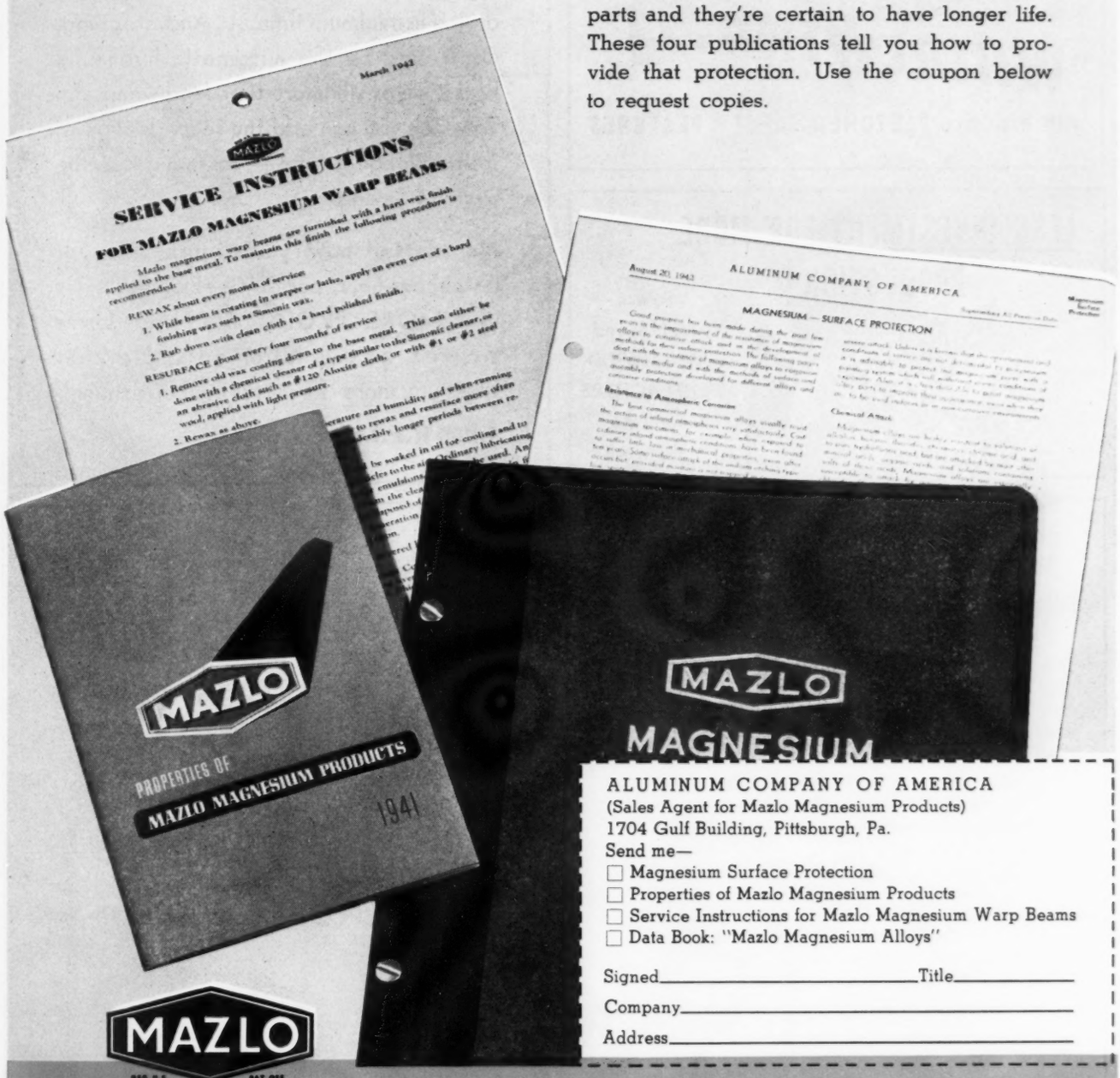
THE FOSTER MACHINE CO., WESTFIELD MASS.
SOUTHERN OFFICE, JOHNSTON BLDG., CHARLOTTE, N. C.

FOSTER MODEL 76
NYLON SIZING MACHINE

Hard-working Mazlo Magnesium textile equipment appreciates a little attention

Textile operations move faster, more smoothly, because of the many lightweight Magnesium Alloy machine parts and equipment employed. You can't get replacements — fighting men are taking all of these lightweight products we can produce — so ways and means of making present equipment last longer become tremendously important.

Protect the surface of Magnesium Alloy parts and they're certain to have longer life. These four publications tell you how to provide that protection. Use the coupon below to request copies.



ALUMINUM COMPANY OF AMERICA
(Sales Agent for Mazlo Magnesium Products)
1704 Gulf Building, Pittsburgh, Pa.
Send me—

- ☐ Magnesium Surface Protection
- ☐ Properties of Mazlo Magnesium Products
- ☐ Service Instructions for Mazlo Magnesium Warp Beams
- ☐ Data Book: "Mazlo Magnesium Alloys"

Signed_____ Title_____

Company_____

Address_____

MAZLO
REG. U.S. PAT. OFF.

AMERICAN MAGNESIUM CORPORATION
SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

Whirls out the work in as little as 1/2 the usual time

FLETCHER HIGH SPEED

"WHIRLWIND"

with exclusive FLETCHER SAFETY FEATURES

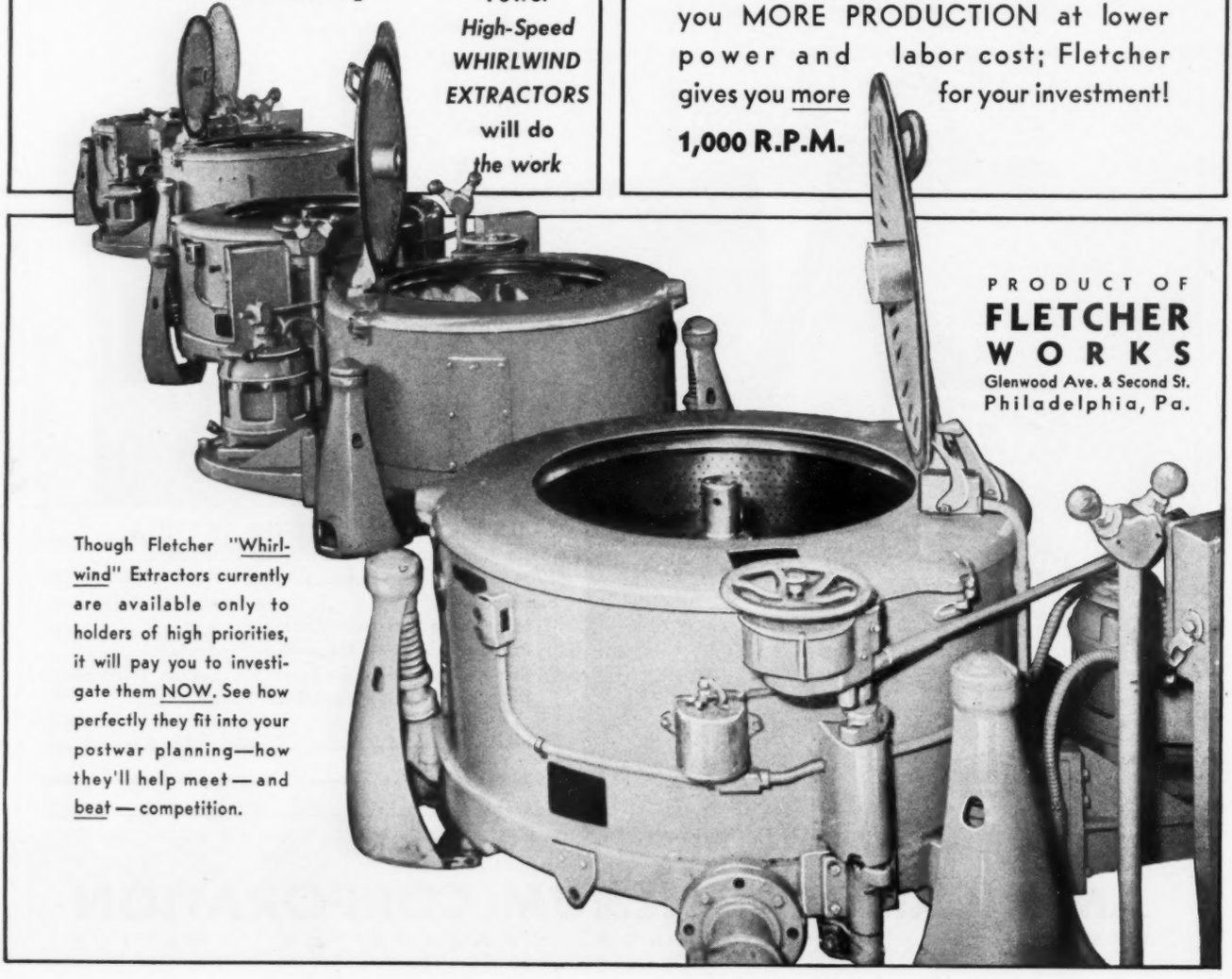
• Yours is a five-fold saving on every batch! Saving, first, in loading time, due to Fletcher's convenient design.... Saving, next, in seconds gained by the extra-fast, smooth acceleration.... Then, the very high speed reached gives you maximum drying in minimum time.... And, stopping, controlled by the automatic hydraulic brake, saves still more time (and wear).... To which you can add the seconds clipped from unloading time — to round out the cycle of $aving!

No matter how you figure it — per batch, per hour, per day — Fletcher gives you MORE PRODUCTION at lower power and labor cost; Fletcher gives you more for your investment!

1,000 R.P.M.

LESS INVESTMENT FOR MORE PRODUCTION!

Fewer *High-Speed WHIRLWIND EXTRACTORS* will do the work



PRODUCT OF

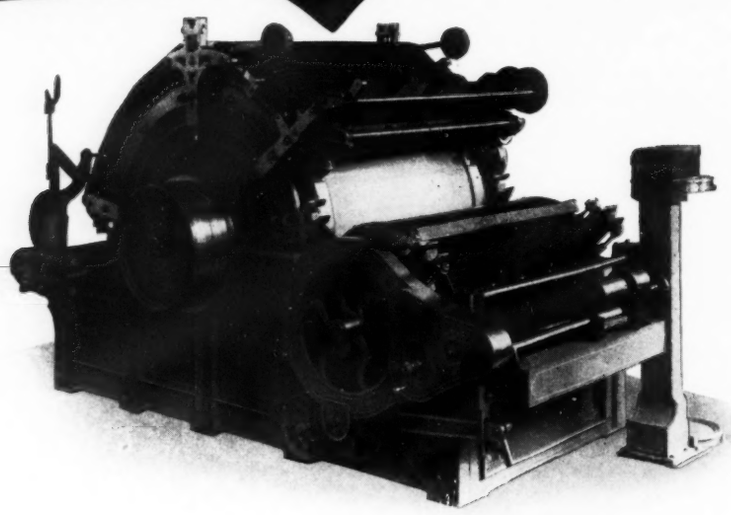
FLETCHER WORKS

Glenwood Ave. & Second St.
Philadelphia, Pa.

Though Fletcher "Whirlwind" Extractors currently are available only to holders of high priorities, it will pay you to investigate them NOW. See how perfectly they fit into your postwar planning—how they'll help meet — and beat — competition.

Their Loss is the Victory Program's Gain
Hats off to the Misses of America who are sacrificing the glamour and individuality of style that go with Franklin Process yarn-dyed fabrics, so that our armed forces may be quickly and economically equipped.
Their loss is the Victory Program's gain because:
1. Our four dye houses assure local, neighborly yarn dyeing service for four major textile centers.
2. Our large capacity and experience promote prompt deliveries to manufacturers of military fabrics.
3. Our method of dyeing aids in accurate matching and quick corrections of shades.
4. It saves critical materials by using a minimum amount of dyestuffs and chemicals.
Let the Misses of America, through Franklin Process, help YOU to hasten VICTORY.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
★ Providence, Philadelphia, Greenville, Chattanooga; New York Rep., 40 Worth Street; Chicago Rep., 100 W. Monroe Street.

They Have Served in 5 Wars



An H & B Revolving Top Flat Card

In 1895 we installed 24 new H & B Revolving Top Flat Cards in a New England mill. For 30 years they were in continuous operation, producing over 800 lbs. per card per week. During that time no repairs were necessary except to replace one cylinder fillet.

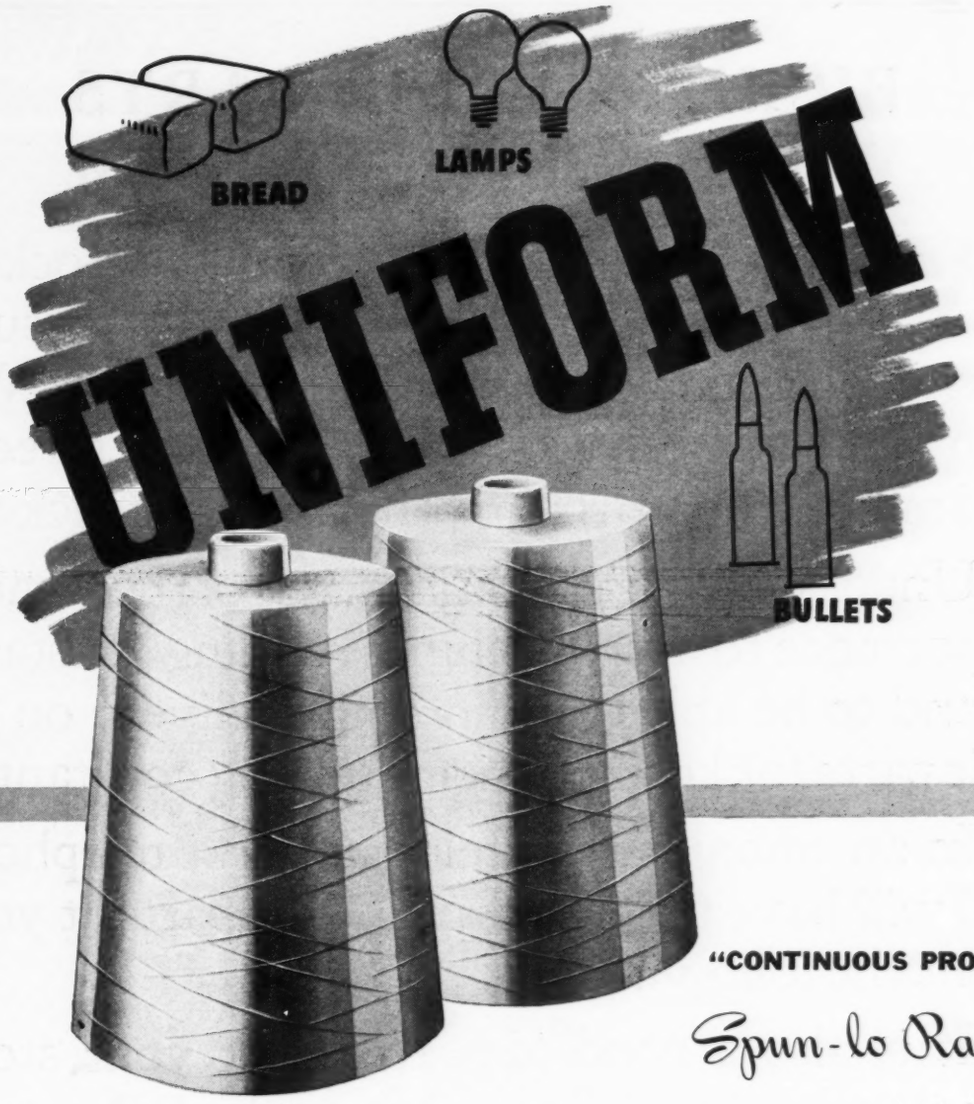
Soon after this these cards were sold to another mill and again have been in continuous operation, — the last two years on war production on a three shift basis. Repairs, according to last reports, had been negligible and quality and quantity of work were still satisfactory. Thus these machines have served during the Spanish American War, the Philippine Insurrection, the Boxer Uprising, World War I and World War II, — a total of 47 years.

The fact that neither time nor engineering progress has yet conquered these cards demonstrates a widely accepted fact,—that H & B equipment is unusually rugged in construction and efficient in design. That is why many a mill regards its present H & B machines with satisfaction and will buy the same make after the war with confidence.

H & B AMERICAN
PLANT AT PAWTUCKET, RHODE ISLAND
Boston Office, 161 Devonshire St.; Atlanta Office, 815 Citizens & Southern National

H&B
TEXTILE MILL MACHINERY

MACHINE COMPANY
Bank Bldg.; Charlotte Office, 1201-3 Johnston Bldg.; Export Dept., United States Machinery Co., 115 Broad St., New York, U. S. A.



"CONTINUOUS PROCESS"

Spun-lo Rayon

STUDY the history of most of our leading industries. What's happened? Through the years, improved techniques have been found to give uniformity to the product. Today, the baker's loaf is the same golden brown product, Monday or Thursday, next week or next month. The lamp you screw into your socket is standard. War needs require absolute uniformity too. The bullet used by our boys in North Africa must be identical with that used on Guadalcanal.

And the revolutionary "Continuous Process" of rayon production has achieved the same result for Spun-Lo—producing a yarn virtually free of knots and broken filaments —a yarn, every inch of which is spun, washed, bleached, treated, dried and twisted as a single thread, in a *continuous* operation —a yarn that is absolutely UNIFORM, inch by inch, pound by pound, cone by cone.

"CONTINUOUS PROCESS" Spun-lo Rayon
Reg. U. S. Pat. Off.

INDUSTRIAL RAYON CORPORATION • Cleveland, Ohio—New York Office, 500 Fifth Avenue

PICKER REPAIR PARTS WHEN YOU NEED THEM

WE keep on hand a very complete stock of all parts for Kitson pickers, and can usually ship the same day an order is received. We also can furnish beaters, ball bearings, screens and many other parts for other makes of pickers.

Under wartime conditions, it is of the utmost importance to keep machines running constantly and to be able to get prompt delivery on repair parts for keeping them running constantly.

In an emergency, a telegram or a telephone call will have the necessary repair parts at your plant the following day.

It is also a good idea to check your stock room and order picker parts on which the stock is low or is exhausted.

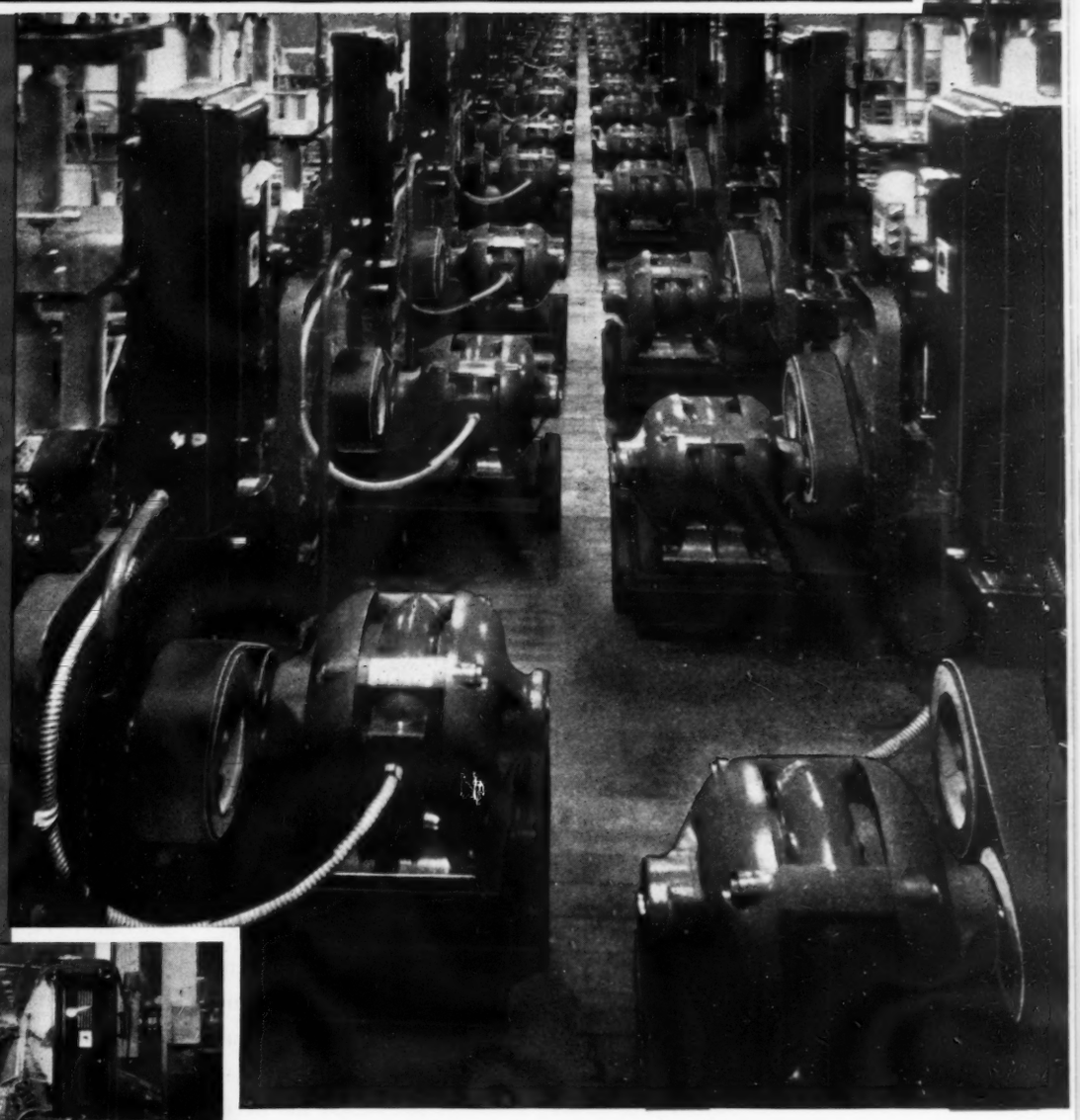
We can completely rebuild your pickers exactly like new, and when pickers are practically worn out and in need of more than ordinary repair parts, they can be completely renewed at far less than the cost of new machines with new frames.

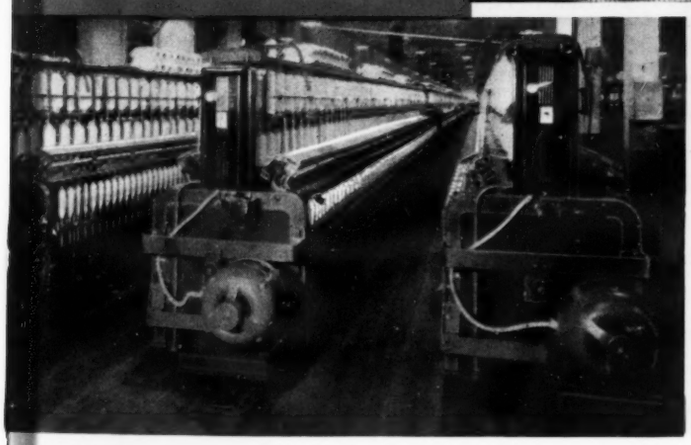
ALDRICH MACHINE WORKS

Greenwood, South Carolina

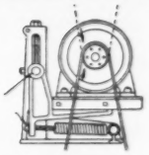
ROCKWOOD *automatic belt tightening* MOTOR BASES

SO YOUR MACHINES WILL DO MORE and BETTER WORK

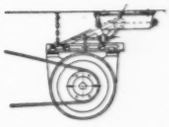




Floor base



Machinery base



Lineshaft base

Rockwood belt tightening motor bases for spinning and twister frames come in designs to fit the type of frame you have. Also there is a Rockwood pivoted loom base and the three popular stock lines of bases shown above.

Even in these days of critical materials cotton mills are continuing to install Rockwood *automatic* belt-tightening motor bases—so they can be sure of the increased machine output, improved quality of work done, reduced maintenance and increased belt life that results. Today these savings in maintenance and the increased life of belt are not only important but close to a war production "must do."

IF YOU ARE NOT YET USING ROCKWOOD DRIVES it may pay you well to investigate. Adaptable for old machines as well as for new. Write to factory or to your nearest Rockwood distributor and a Rockwood Engineer will be glad to call.

Transmission Specialists Since 1883—Rockwood Paper Pulleys—V-belt Drives—Pivoted Motor Bases.

ROCKWOOD MANUFACTURING CO., INDIANAPOLIS, IND.

THE DYESTUFF

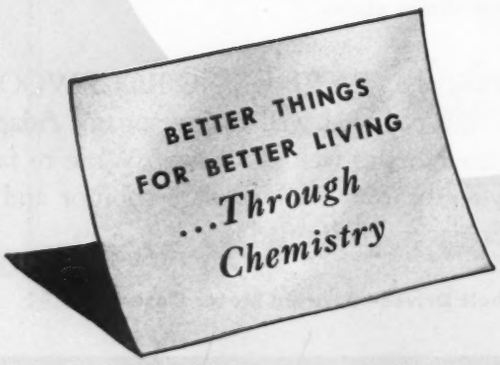
Yesterday...

Twenty-five years ago the need for color was urgent. European sources of supply had been shut off and America's textile industry was threatened with a desperate situation unless it could get dyes quickly.

This brought about the birth of a new American industry—dyestuffs. It was little realized at the time how vital a part this infant was to play in the American scheme of living. The early struggles of the newcomer to survive were many. During its weakest years the textile industry fostered the infant, assisting in its development through helpful advice and guidance. It aided the dyestuff industry in establishing products for which the need was greatest and by accepting these products it gave the necessary impetus to further research and planning.

The colors first manufactured left much to be desired, but textile mills were patient. They cooperated whole-heartedly and only a few years elapsed before manufacturers were turning out dyestuffs of highest quality, satisfactorily fulfilling requirements. The youthful industry kept growing—ever stronger—making an increasingly broader range of important products. Initial production of anthraquinone and thioindigoid derivative vat colors was well received by dyers and printers and the period 1920 to 1930 represented a decade of rapid growth. Complete lines of direct, developed, sulfur and acid colors were introduced, and subsequent years witnessed further expansion in the vat color field.

Development of the organic chemicals industry was paralleled by the growth in chemical education. Many of the chemists, chemical engineers and technicians trained during this period became leaders of the industry. The future was bright, the horizons were broad, the opportunities unlimited for the betterment of existing products and the development of new ones.



E. I. DU PONT DE NEMOURS & CO. (INC ORGANIC CHEMICALS

SITUATION

Today...

World War II—the United States has at its command a complete, integrated and self-sufficient organic chemical and dyestuffs industry, supplying great quantities of vital materials essential to the war effort. Its importance to our national welfare and security is further emphasized through its contribution of highly trained chemical engineering and technical personnel to the many chemical, munitions and powder plants necessary to carry on a global war.

The dyestuffs industry is supplying the armed forces with the fastest colors available which meet the rigid requirements for durability and service. In addition, there are over 1200 colors available for use in the manufacture of permissible and essential civilian textiles, paper, leather, paint, rubber and other products. Other important contributions to the nation's economy resulting from research in the dyestuffs field are neoprene chloroprene rubber, synthetic camphor, pharmaceutical chemicals, refrigerants and air conditioning chemicals, tetraethyl lead, textile and dyeing assistants, and water repellents.

The infant industry has reached maturity, shouldering its burden well. As far as chemicals and dyes are concerned, this country need no longer fear the consequences of isolation. This has been proved by the events of the past 12 months. Substitutions may occasionally be necessary because of priorities, allocations and other wartime contingencies but the dyestuff industry will do its utmost to satisfy all demands for colors. Du Pont is proud of the part it has played in the growth and development of the American dyestuffs industry. When the world is again at peace, lessons of the last thirty years will have served to give America—*Better Things for Better Living . . . through Chemistry.*

DEPARTMENT . . . DYESTUFFS DIVISION . . . WILMINGTON, DELAWARE

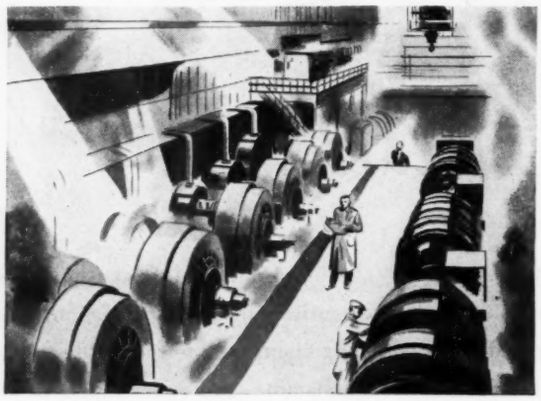
DU PONT DYESTUFFS

REG. U.S. PAT. OFF.

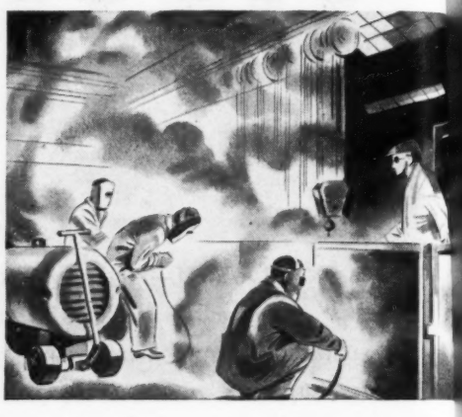
PRECIPITRON* CLEANS THE AIR FOR AMERICAN WAR INDUSTRIES

90% of All Particles as Small as 1/250,000 of an Inch Cleared Away by ELECTRIC AIR CLEANING

By removing tiny, air-borne abrasive and corrosive particles, Precipitron is protecting superfinished surfaces of airplane engine parts and other materiel.



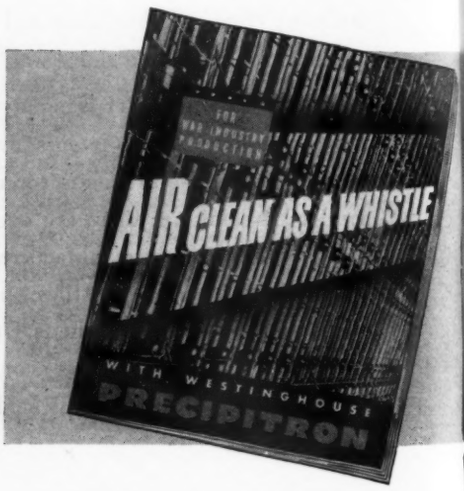
To reduce the threat of maintenance shutdowns in steel mills and central stations, Precipitron cleans the ventilating air for large rotating electrical machinery.



Where industrial operations create excessive amounts of harmful smoke, fumes and oil vapors electric air cleaning clears the air and reduces ventilating costs.

In pharmaceutical laboratories where miasma-free conditions are essential, Precipitron's "total air cleaning" removes one of the major dangers of atmospheric contamination.

Because it removes particles as small as 1/250,000 of an inch, electric air cleaning reduces the number of rejects in the manufacture of delicate optic systems.



SEND FOR THIS FOLDER

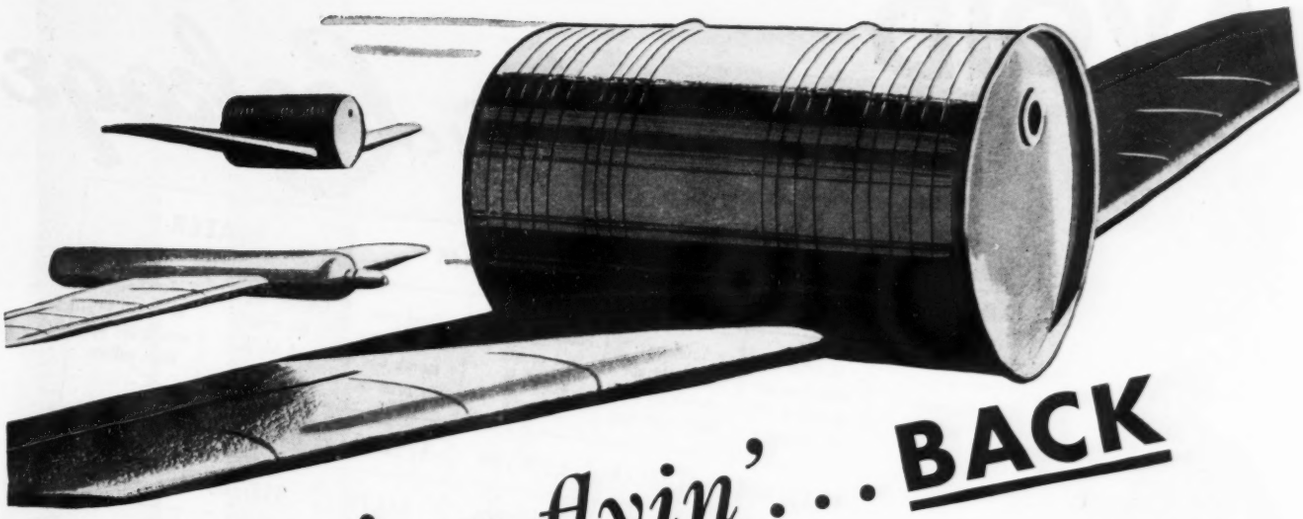
For a full story of electric air cleaning's war production applications, write for the new Precipitron folder, B-3083.

*Trade-mark registered in U. S. A.

Westinghouse

EDGEWATER PARK • CLEVELAND, OHIO

Precipitron



Keep 'em flyin' . . . BACK

The Army needs chemicals . . . it gets them.
The Navy needs chemicals . . . it gets them.
High priority warplants need chemicals . . . they get them.
Industry needs chemicals . . . it gets them.

COMES A SHORTAGE OF STEEL CONTAINERS

The Army gets some of its requirements.
The Navy gets some of its requirements.
The warplants get some of their requirements.
Industry gets less . . .

THINGS SLOW DOWN

★ ★ ★ ★ ★

RIGHT NOW, DU PONT HAS THE CHEMICALS . . . BUT CONTAINERS ARE SHORT

But when the Army empties containers quickly,
when the Navy empties containers quickly,
when the warplants empty containers quickly,
when industry empties containers quickly

AND ALL USABLE STEEL CYLINDERS, DRUMS, CONTAINERS ARE SENT BACK*

Then the Army gets more.
Then the Navy gets more.
Then the warplants get more.
Then Industry gets more.

EMPTY CONTAINERS PROMPTLY, SEND THEM BACK IMMEDIATELY AND THE SERVICES, THE WARPLANTS, GENERAL INDUSTRY CARRY ON

**We need all Du Pont returnable and non-returnable metal containers in usable condition.*

DU PONT
REG. U. S. PAT. OFF.

E. I. DU PONT DE NEMOURS & CO. (INC.), WILMINGTON, DELAWARE

AVOID this Costly Valve Leakage

AREA OF LEAK	AIR		STEAM		WATER	
Diameter Inches	Number of cubic feet per month at 75 lb. pressure	Total cost of waste per month 11c per 1000 cubic feet	Pounds wasted per month at 160 lb. pressure	Total cost of waste per month 65c per 1000 lb.	Gallons wasted per month at 60 lb. pressure	Total cost of waste per month 16c per 1000 gallons
1/2"	13,468,000	$1,481.44	1,219,280	$792.53	1,524,100	$243.86
3/8"	7,558,500	831.44	684,290	444.79	855,360	136.86
1/4"	3,366,990	370.37	304,820	198.13	381,020	60.96
1/8"	824,570	90.70	74,650	48.52	93,310	14.93
1/16"	213,000	23.43	19,280	12.53	24,110	3.80
1/32"	52,910	5.82	4,790	3.11	5,990	.96

Enlarged copies of this chart printed on cardboard are available on request; also ask for Lunkenheimer Catalog 78.

Valves aren't so easy to replace these days . . . practically all materials going into their manufacture are on the critical list. This means that it is up to every valve user to take the best care of what he has to insure the longest possible service life.

Leaky valves are saboteurs of your production schedules . . . obstructing your best efforts and increasing your costs. The chart illustrated above gives you an idea of what valve leakage costs you.

Fortunately, valves respond to good treatment. Careful handling, immediate repair of the slightest leaks, and prompt replacements of worn parts will keep them on the job, ready to meet the demands imposed by industry's unprecedented war effort.

Since virtually all materials used in the manufacture of valves are on the list of critical materials, valve users are urged to furnish the highest possible preference ratings and proper "end use" symbols on their orders. This will be of mutual helpfulness.

ESTABLISHED 1862

THE LUNKENHEIMER CO.

"QUALITY"

CINCINNATI, OHIO, U. S. A.

NEW YORK CHICAGO
BOSTON PHILADELPHIA

EXPORT DEPT. 318-322 HUDSON ST., NEW YORK

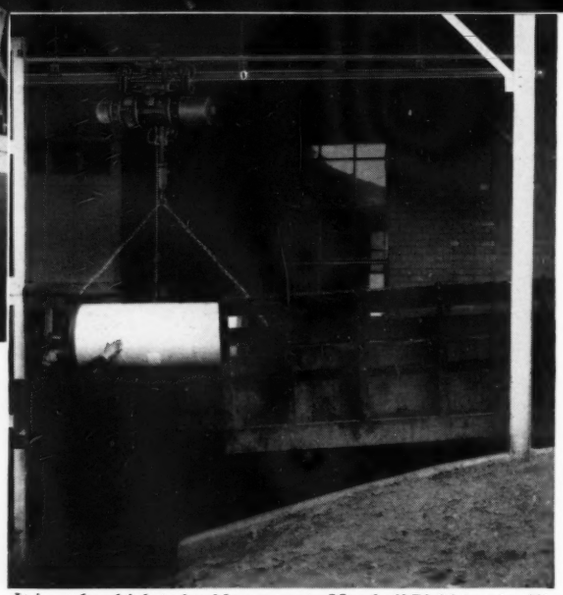
LUNKENHEIMER VALVES

Greetings
OF THE SEASON

One of the real joys of this Yuletide is the opportunity to put aside the heavy routine of tense everyday business, and in real sincerity, wish our many friends and customers who have borne with us patiently, cooperatively and with generous understanding, a Merry Christmas and a New Year filled with the promise of better things to come.

CIBA COMPANY, INC.

FASTER-EASIER HANDLING AT MARSHALL FIELD WITH CLEVELAND TRAMRAIL



It is no hard job to load beams onto Marshall Field trucks. The overhead rail connects with other parts of the extensive Cleveland Tramrail system, enabling delivery of beams directly to the truck platform by the overhead route.

Because a tremendous amount of hauling is eliminated with a Cleveland Tramrail system at one of their mills, the executives of Marshall Field & Co., Manufacturing Division, with main offices in Spray, N. C., are enthusiastic over their overhead materials handling equipment in this mill.

Cleveland Tramrail is used in many departments. It has been found especially advantageous for the handling of beams. Since it is desirable to keep 70 to 80 warp beams ahead of the slashers, considerable space is required for their storage. Cleveland Tramrail enables them to store the beams three high when space is lacking and thereby get more beams into a given area. Also any beam can be picked up and moved direct to slashers without moving other beams on the floor.

It now takes about one-fifth the time formerly required to place beams into a slasher. It is much easier on the men, too! Possibility of strained backs is removed and safety is greatly improved.

Cleveland Tramrail is aiding dozens of textile mills accelerate production, cut costs and better working conditions.

BOOKLET No. 2008 . . Packed with valuable information. Profusely illustrated. Write for free copy on your company letterhead.

GET THIS BOOK!

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1175 EAST 283RD ST. WICKLIFFE, OHIO.

MANUFACTURERS OF • CLEVELAND CRANES • CLEVELAND TRAMRAIL • STEELWELD BENDING PRESSES

CLEVELAND TRAMRAIL

OVERHEAD MATERIALS HANDLING EQUIPMENT

Here's Relief from **BURLAP SHORTAGE**

NEW Fulton Waterproof BALING PAPERS

The necessity of using the limited obtainable supply of burlap for more important purposes than wrapping has placed a serious packaging problem before the cotton mills. Cotton mills realize that they must use their entire manufacturing capacity to make cotton goods for war needs. In this emergency FULTON Baling Papers furnish the answer. You can depend on these all-purpose wrapping papers as a satisfactory burlap replacement to protect cotton goods.

FULTON Baling Papers have many advantages. They are sturdy and tough, waterproof, dustproof and flexible. They will save your goods damage from exposure, reducing losses and claims. They are low in price and are readily available for prompt shipment from our stocks. Furnished in various widths and weights to best suit each individual mill's needs. Manufactured in our own plant, a special waterproof asphalt binder cements two layers of tough kraft paper, making a wrapping that is easy to handle—one that will withstand rough treatment in storage and in transit.

FLAT duplex paper for roll goods. CRINKLE duplex paper for baling goods.

Write for samples—the low prices will surprise you.

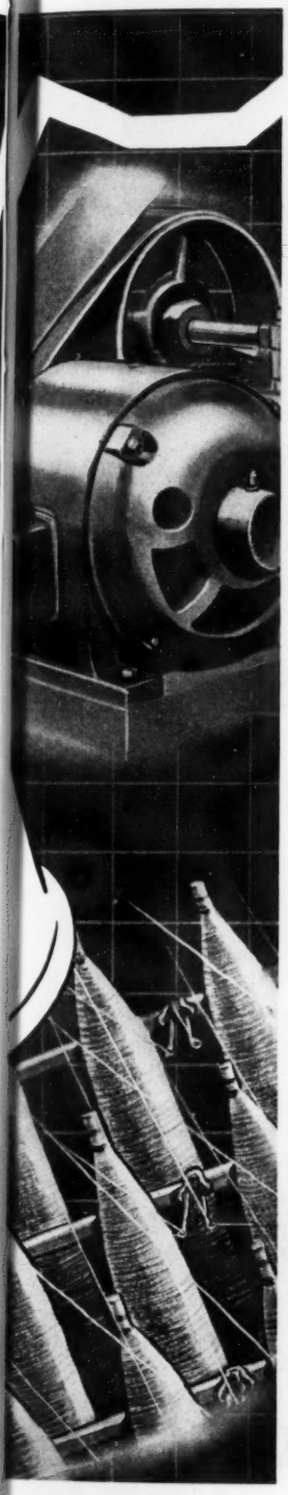
Fulton Bag & Cotton Mills

Manufacturers Since 1870

ATLANTA ST. LOUIS DALLAS
NEW ORLEANS MINNEAPOLIS
KANSAS CITY, KAN. NEW YORK

...FOR Maximum
TYCOL
Engineered
TEXTILE
LUBRICANTS

Production AT ALL POINTS



with maximum protection against wear and machine breakdown

To maintain today's record-breaking production in every phase of textile mill operation, the hard-working machines must be guarded against friction and time-consuming repairs by providing efficient, dependable lubrication. Hundreds of textile plants have found the successful solution to former lubrication problems in Tide Water's engineered Textile Lubricants.

Tycol Textile Oils and Greases have proved their reliability by many years service in wool, cotton, silk and rayon manufacture. From power plant to finishing they promote maximum production and trouble-free machine operation. Tide Water Steam Cylinder Oils and Turbine Oils have improved performance on prime movers throughout industry. Tide Water Green Cast Greases guard bearings against failure because they hold their body — don't break down or thin out quickly. On spindles, looms, and tentering frames Tycol's specialized Textile lubricants have made possible many exceptional records of economy and continuously trouble-free operation.

Call a Tide Water engineer. He'll be glad to study your problem and recommend the proper Tide Water lubricant engineered to meet your particular need and thus assure maximum production at minimum yardage cost. Our informative booklet "Principles of Textile Mill Lubrication" contains many helpful suggestions. Write for full details to Tide Water Associated Oil Company, 17 Battery Place, New York, N. Y.

DRUMS! **War needs make it extremely important that all empty drums be returned immediately.**

INDUSTRIAL TYCOL OILS-GREASES

TIDE WATER
ASSOCIATED OIL COMPANY
EASTERN DIVISION
17 BATTERY PLACE, NEW YORK
Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

OIL IS AMMUNITION
USE IT WISELY !

MAKERS OF THE FAMOUS VEEDOL MOTOR OIL

AIR — against WATER

Rising and falling with the waves . . . men on a rubber raft . . . human lives snatched from the sea . . . by a thin layer of inflated rubber.

Important? Yes. It's important that the thin sheets of rubber be kept free of cracks and blisters, that the raft unfold easily, that it be *safe* when it's needed.

That's why rubber life rafts are processed in special air conditioned rooms . . . to make the rubber tough and long-lasting. *Room temperature and humidity are maintained more exactly than ever.*

To do jobs like this, air conditioning equipment must be more precise, more flexible, more compact. Required "climates" must be reproduced faithfully . . . wherever and whenever wanted.

General Electric has already taken an outstanding part in developing this new kind of air conditioning for war industries. After the war, *all* users of air conditioning will benefit from the lessons we have learned in meeting these stringent war requirements.

More people will enjoy air conditioning because it will be more compact . . . more economical. Cars will have it. Also planes and boats. Small stores, as well as large, will want it to increase sales, to keep goods fresh. Factories will demand it as an aid to production.

The place to turn for this new equipment will be General Electric . . . a logical source of heating, refrigeration, air conditioning, and heat transfer equipment of all kinds. Turn to G-E.

Air Conditioning and Commerical Refrigeration Department, Division 427, General Electric Co., Bloomfield, N. J.

Air Conditioning by

GENERAL ELECTRIC

How NOT to drag hose. *Avoid pulling kinks in hose. Take time to LIFT and pull over rough places.*

War on *Wear!*

MANHATTAN'S Suggestions for the Care of RUBBER HOSE

You can make your rubber hose last longer if you follow these 12 Rules carefully. This is patriotism and efficiency.

1. Avoid sharp bends at fittings; also twists and kinks in body of hose.
2. Attach couplings carefully, forcing shank straight into hose, using soap and water lubricant.
3. Straighten hose before dragging and while unpacking. Do not forcefully bend, twist, kink, or pull hose.
4. Do not stop flow by kinking (see illustration); this ruptures fabric reinforcement.
5. Do not let hose lie in sun, hot or damp places.
6. When not in use, drain and roll up, but do not suspend on nail.
7. Do not permit heavy objects to run over hose.
8. Avoid excessive temperatures, violent fluctuations of pressure, unnecessary flexing, oil or grease.
9. Rotate large hose periodically to distribute wear and handle with ample supports to distribute strains.
10. Use the correct type and size hose for the conditions.
11. Store in dark, cool place.
12. Consult MANHATTAN Representative.

The qualities that result in long life have been a MANHATTAN objective for 50 years in the "engineering" of its rubber products for industry.

KEEP AHEAD WITH MANHATTAN

This is No. 2 of a series on rubber conservation. Reprints are available in card form, punched for hanging.—Write for them.

THE MANHATTAN RUBBER MANUFACTURING DIVISION
of RAYBESTOS-MANHATTAN, INC.
EXECUTIVE OFFICES
PASSAIC, NEW JERSEY

How NOT to use hose. *Do not shut off hose this way; it will speed breakdown, slow-up production.*

MOVING INTO BATTLE FASTER AND FASTER

Wherever they're fighting—our men must move faster and hit harder than the enemy if this war is to be won—and America to endure. That means they must have better equipment in the field and faster industrial production at home, to build up the extra hitting power needed for victory.

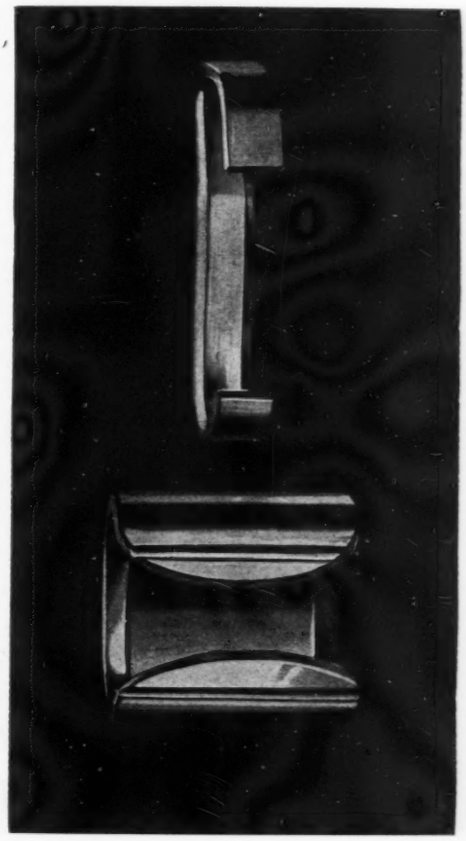
UNIVERSAL RING

BOWEN ROUND POINT TRAVELERS
BOWEN SQUARE POINT TRAVELERS
BOWEN IMPROVED VERTICAL OFFSET
BOWEN PATENTED DOUBLE EDGE
BOWEN PATENTED RE-BOW VERTICAL
BOWEN PATENTED VERTICAL OFFSET
BOWEN FLAT OVAL AND ROUND
WIRE TRAVELERS

ALL-OUT WAR REQUIRES FASTER *TEXTILE* PRODUCTION

IN World War II, a textile output of staggering proportions is required for military equipment—war industries—civilian needs. As an example, the average soldier consumes 124 yards of cotton goods annually, for clothing *alone.* Only by operating machinery at the highest speeds and greatest efficiency can we meet the urgent demand for textile goods. And where spinning or twisting frames are concerned, *dependable* Ring Travelers are essential to record production.

For many years, Universal Standard Ring Travelers have held a reputation for superior performance. They're durably made, to operate at mile-a-minute speeds. They're *precision*-made, too, so they'll have proper balance, uniform size and weight, and will help produce smoother, stronger yarn. Now, when operating efficiency is more important than ever, specify U. S. Travelers for *your* machines.



Smooth, even yarn is produced as result of the Bowen Patented Bevel Edge, a feature of U. S. Ring Travelers. There are no split ends in throwing — no angular edges to flatten the end — no fly waste in spinning and twisting. Made and stocked in all sizes and weights.

U. S. RING TRAVELER CO.

PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN, Pres. and Treas.

Southern Representatives

William P. Vaughan, P. O. Box 792, Greenville, S. C. Torrence L. Maynard, P. O. Box 456, Belmont, N. C.
William H. Rose, P. O. Box 792, Greenville, S. C. Oliver B. Land, P. O. Box 1187, Athens, Georgia

U.S. RING TRAVELER CO.

"A Traveler for Every Fibre"

STANDARD TRAVELERS

AUTOMATIC TRAVELING SPINDLE WINDING

KNITTING CONES ***DYE TUBES***
WARPING CONES ***TWISTING TUBES***

LABOR IS USUALLY REDUCED 65%

LARGE SAVINGS ALSO MADE IN HANDLING TO AND FROM WINDERS

BIG SIX POUND CHEESES IN TWISTER CREELS MAKE A FURTHER SAVING IN CREELING

AUTOMATIC WINDING IS NO LONGER A NOVELTY. IT IS STANDARD IN ALL PROGRESSIVE MILLS

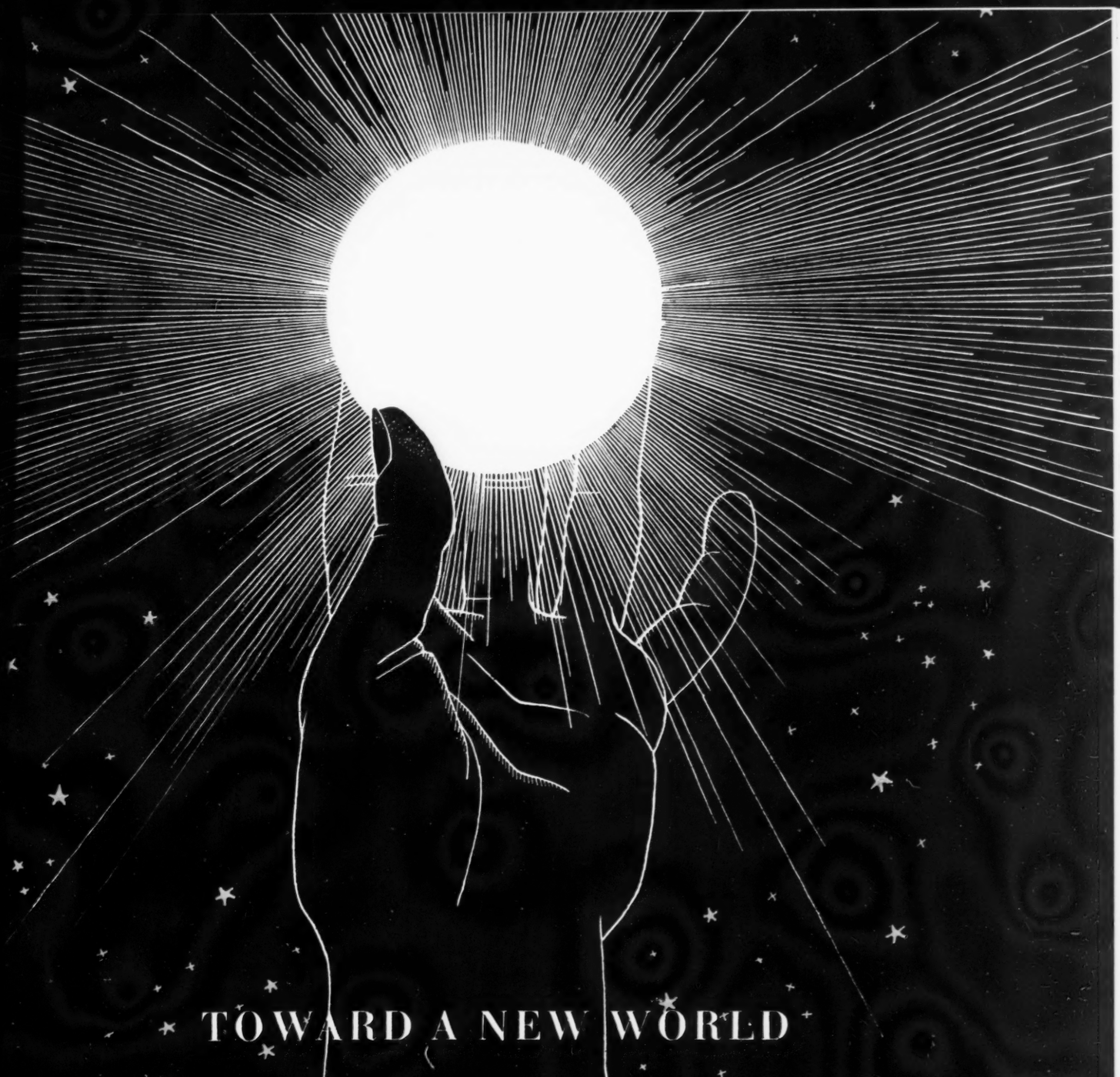
LABOR FREED IN THE WINDING AND WARPING DEPARTMENT IS AVAILABLE FOR INCREASED PRODUCTION THROUGHOUT THE MILL

THIS EQUIPMENT IS MADE ONLY BY

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, L. S. Ligon, Greenville, S. C.

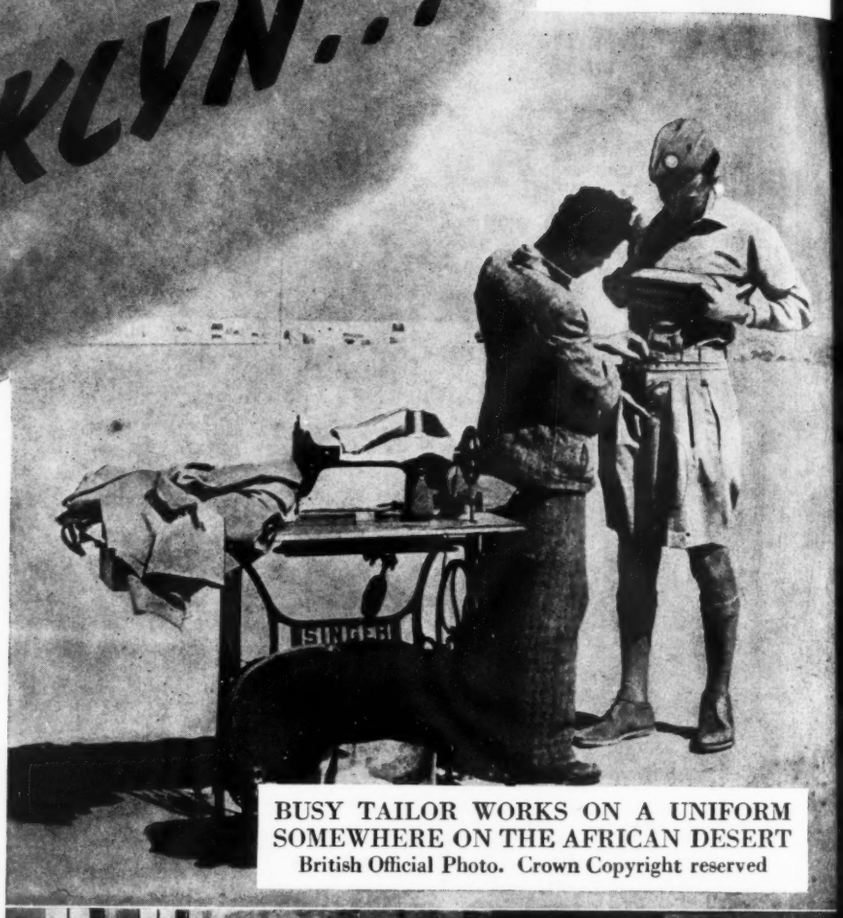


TOWARD A NEW WORLD

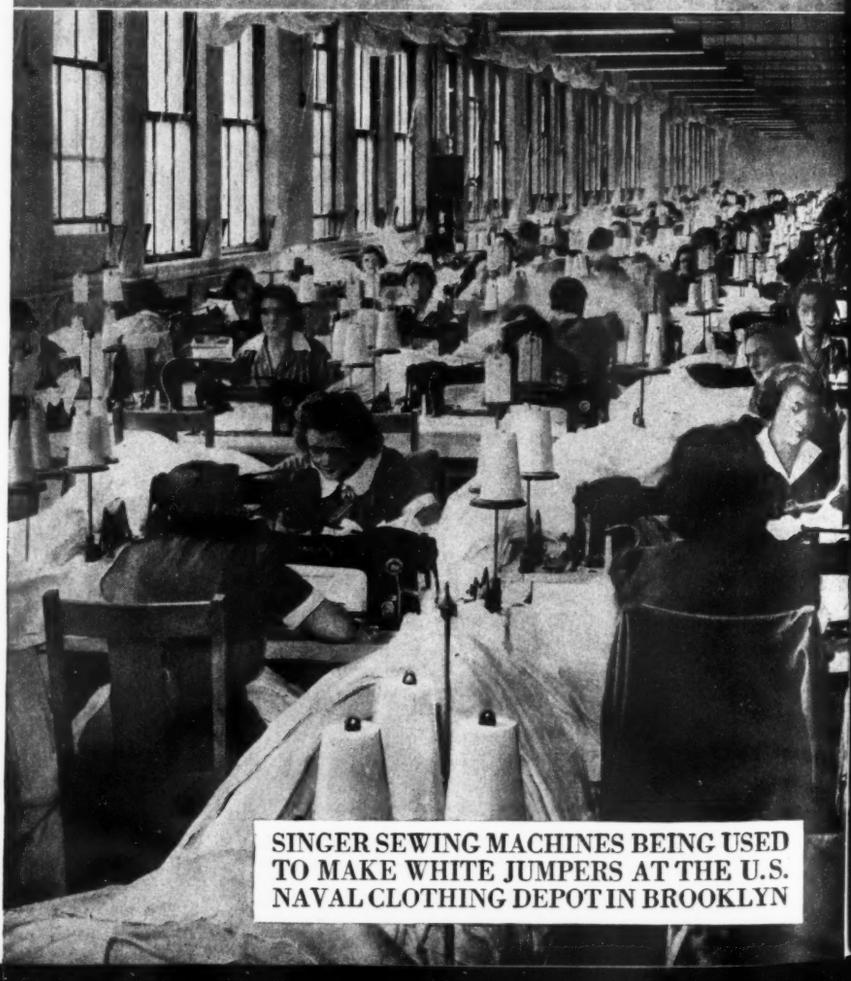
Out of the frenzied ferment into which the whole world has been so violently tossed there will evolve a new sphere of action ☆ Out of this epic struggle America will emerge mightier than ever with its resources intact and potentialities expanded ☆ Machines of destruction will be converted into engines of creation. American industry will continue to use all hands and pour forth an abundance of products that will be needed by exhausted nations ☆ Out of our efforts to meet today's emergencies will come unique discoveries that will contribute vastly to the life of tomorrow. Every hour we are moving faster toward that *New World.*

GENERAL DYESTUFF CORPORATION • NEW YORK

IN AFRICA OR BROOKLYN...



BUSY TAILOR WORKS ON A UNIFORM SOMEWHERE ON THE AFRICAN DESERT
British Official Photo. Crown Copyright reserved



SINGER SEWING MACHINES BEING USED TO MAKE WHITE JUMPERS AT THE U.S. NAVAL CLOTHING DEPOT IN BROOKLYN

On the African desert, in Brooklyn, and many other parts of the world, Singer sewing machines are playing a vital part in clothing and equipping men for all branches of the armed forces.

Singer sewing machines formerly available for making hundreds of different things for civilian use are now sewing parachutes, gas masks, uniforms, tents, gun covers, shoes, powder bags, fur lined helmets, and many, many other articles needed to bring speedy victory to US. And if, like many others, you are having trouble getting Singer sewing machines, remember that Uncle Sam is our first customer, and his needs must be satisfied first.

SINGER SEWING MACHINES

SINGER

SEWING MACHINE COMPANY
Manufacturing Trade Department
149 Broadway New York, N. Y.
Branches in all principal cities

Copyright U. S. A. 1942 by The Singer Manufacturing Company.
All Rights Reserved for All Countries.

Here's *Exactly* Why

The CONCAVE SIDE

Saves Belts-Saves Rubber-Saves Power!

Pick up any V-belt that has straight sides. Bend that V-belt while you grip its side-walls as in the picture above. You will feel the sides of the belt bulge out —as shown in Figure 1 on the right. Clearly, that out-bulge gives the belt a shape that does not fit its sheave groove.

Now look at Figure 2. There you see what happens when you bend a belt that is built with the patented Concave sides. You get a similar change in side-wall shape—but what a different result! The precisely engineered Concave side becomes perfectly straight. There is no out-bulge:—the full side-width of the belt *uniformly* grips the sheave groove wall. This means *uniform* wear—*longer* life—a saving in belts for you, a saving in rubber for the Nation. In addition, this full side-width grip on the pulley carries heavier loads without slippage—another saving of belts and a saving in power too!

Only belts built by Gates are built with the Concave side, a Gates patent.

What Happens When a V-Belt Bends

FIG. 1

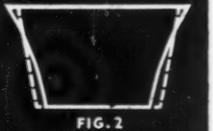


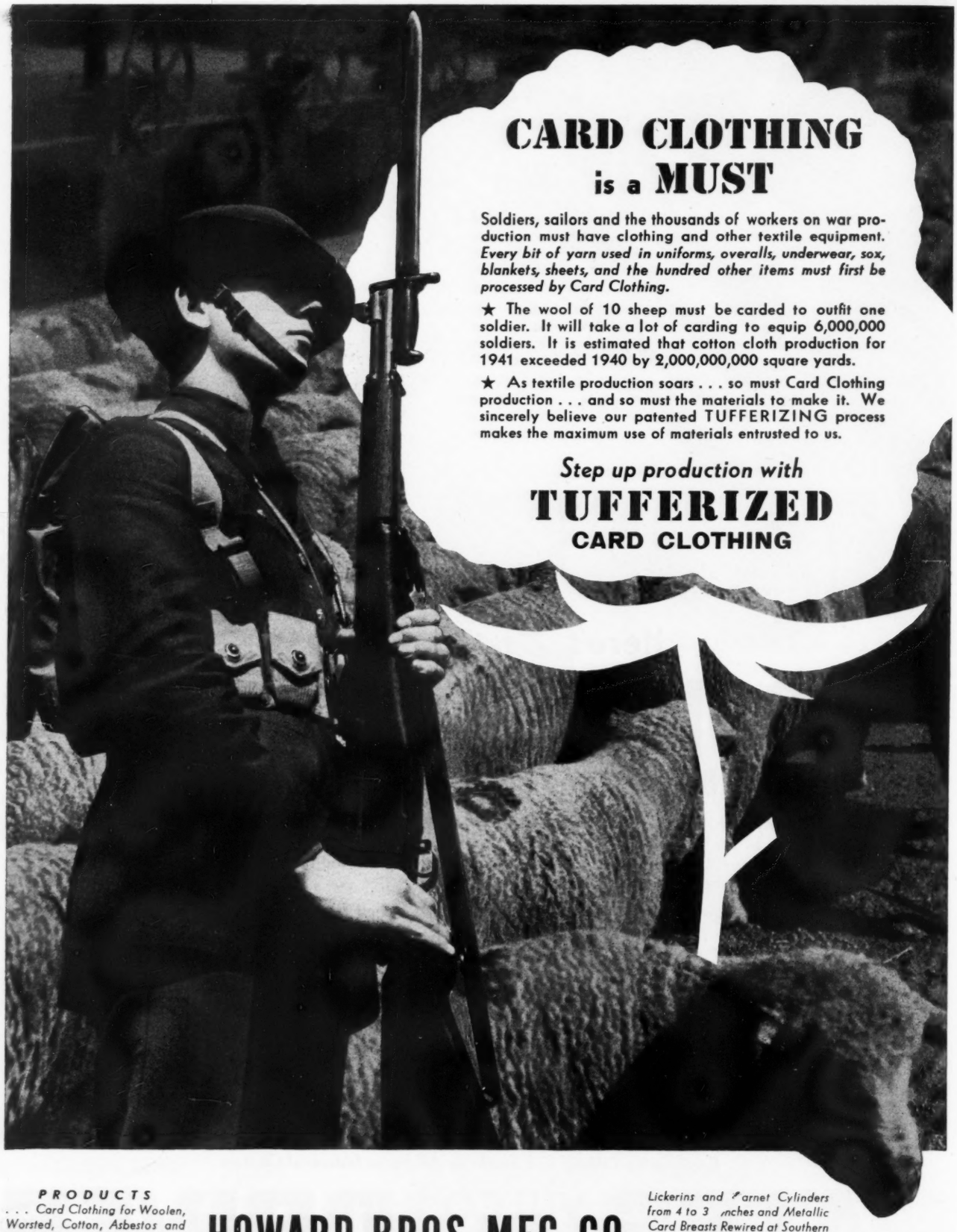
FIG. 2

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

GATES VULCO ROPE DRIVES

Chicago, Ill. 549 West Washington
Dallas, Tex. 2213 Griffin Street
New York City 215-219 Fourth Avenue
Birmingham, Ala. 405 Liberty National Life Bldg.
Los Angeles, Cal. 2240 East Washington Blvd.
Charlotte, N. Carolina 507 Builders' Bldg.
Greenville, S. Carolina 201 Woodside Bldg. Annex
Atlanta, Georgia 738 C. & S. Natl. Bk. Bldg.



CARD CLOTHING
is a MUST

Soldiers, sailors and the thousands of workers on war production must have clothing and other textile equipment. *Every bit of yarn used in uniforms, overalls, underwear, sox, blankets, sheets, and the hundred other items must first be processed by Card Clothing.*

★ The wool of 10 sheep must be carded to outfit one soldier. It will take a lot of carding to equip 6,000,000 soldiers. It is estimated that cotton cloth production for 1941 exceeded 1940 by 2,000,000,000 square yards.

★ As textile production soars . . . so must Card Clothing production . . . and so must the materials to make it. We sincerely believe our patented TUFFERIZING process makes the maximum use of materials entrusted to us.

Step up production with

TUFFERIZED
CARD CLOTHING

PRODUCTS
. . . Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants

HOWARD BROS. MFG. CO.

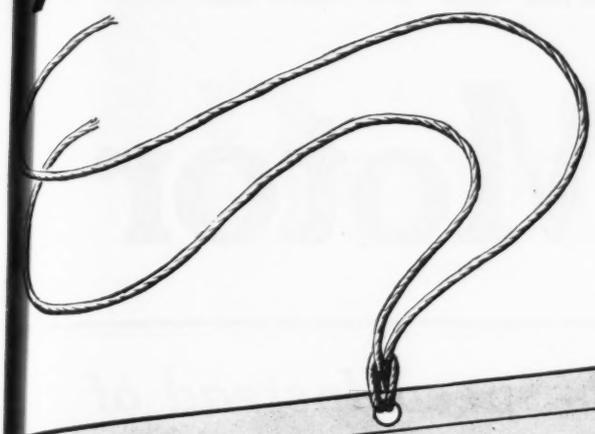
WORCESTER MASSACHUSETTS

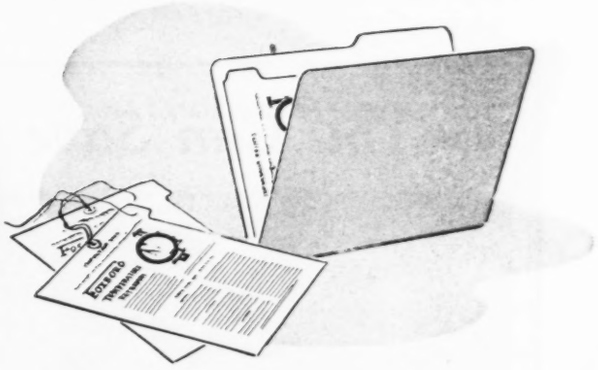
Lickerins and Garnet Cylinders from 4 to 30 Inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye and Regular Wire Heddles

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Dallas. **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

Now A QUICK-CHECK SYSTEM

. . . to keep your instruments in tip-top shape for War Production!



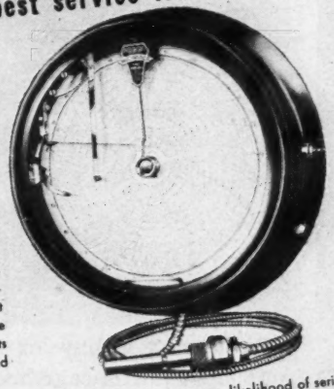


TEMPERATURE RECORDERS

IMPORTANT POINTS
to get longer life, best service from

FOXBORO
REG. U. S. PAT. OFF.

TEMPERATURE RECORDERS



Now, more than ever, it is important to prolong the life of your Temperature Recorders and keep them operating continuously. With very simple care these instruments can be maintained to give continuous, accurate service almost indefinitely without repairs or replacements. Observance of a few simple rules and regular periodic checkups of the points listed below will assure maximum performance and trouble-free service.

Review the installation and maintenance instructions furnished with your Recorder. If the instruction book has been mislaid, send for another one, giving the instrument serial number.

Keep in Mind The Following Points

- Temperature instruments operate by expansion and contraction of gas or liquid in a sealed thermal system extending continuously from the bulb to the instrument. The slightest damage to this system may mean major repairs which may not be available under present conditions. Warn all workmen, especially electricians, who may have occasion to work around the instrument, that the capillary tubing should never be cut or broken. The tubing or bulb should never be used to carry or support the instrument.
- When the instrument is out of service for any length of time, (1) remove all ink from the pens, (2) shut off electric power supplied to the instrument.
- If the instrument service is changed, check the application very carefully, especially as regards corrosion. Check the data plate of the instrument to avoid overranging and damaging the instrument.
- A spring chart drive should be lubricated every year or two, depending on the temperature to which it is subjected. Return the clock to The Foxboro Company or consult the instrument instructions.

If your checkup shows any likelihood of serious trouble, a Foxboro Engineer will be glad to help correct it. There is a Foxboro service office near you.

Check These Points Now

- Can the instrument be relocated to advantage? Install it in a cool location and one as free as possible from vibration, corrosive fumes and vapors.
- Check the installation of the connecting tubing between bulb and instrument. Be sure there are no loose loops that might be caught and damaged by passers-by. Remove carefully any sharp kinks in the tubing.
- Examine the protection tubing for damage. Use acid-proof paint where substitute metal must meet corrosive service. If the protection tubing is damaged, repair it with tape to protect it from further damage.
- Examine the bulb socket — it is there to protect the bulb. If it is badly corroded, replace it with a new socket. This will save destruction of the bulb which would mean a major repair that may not be obtainable in wartime.
- Check bulb for signs of corrosion. Sometimes plating or coating with corrosion-resistant paints will prolong the bulb life. Consider also the use of a socket.

IF IN DOUBT, CALL A FOXBORO ENGINEER

THE FOXBORO COMPANY · FOXBORO, MASS., U. S. A.
Branches in principal cities of the U. S. and Canada

Without modern automatic measurement and control instruments, war plants could not maintain today's high quality and volume of production *for a single day!* It's vitally important to keep every instrument in your plant operating at top efficiency for the duration!

To help you, Foxboro has developed a complete Quick-Check System for putting your instrument maintenance on an easy, accurate routine. There are separate 9"x11" Quick-Check Cards, like the example illustrated, for the principal Foxboro Instruments in your plant.

Attached to your installations or handily filed, these A-B-C instruction cards give simple, clear directions for all essential maintenance steps . . . enable even new-trained instrument men to prevent interruptions in the valuable services Foxboro Instruments render.

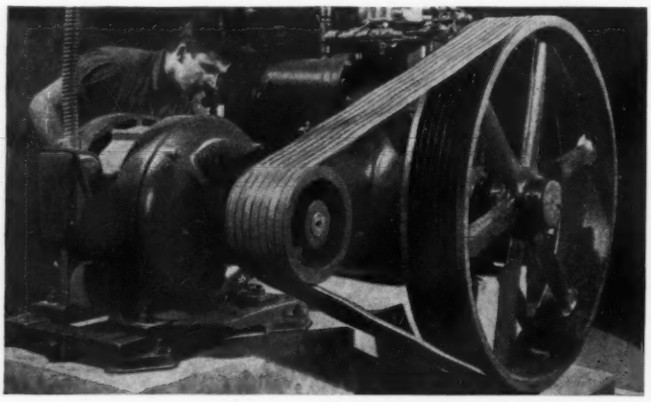
Write for Quick-Check Cards for your plant, specifying all types of Foxboro Instruments you use. Supplied without charge. **The Foxboro Company, 18 Neponset Ave., Foxboro, Mass., U. S. A.** Branches in principal cities.

FOXBORO
REG. U. S. PAT. OFF.

Recording · Controlling · Indicating Instruments

It's Time to Look at Motor

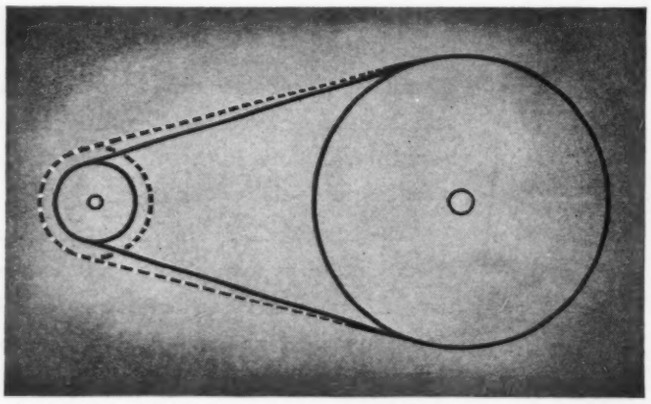
➔*You Can Save with High-Speed Instead of*



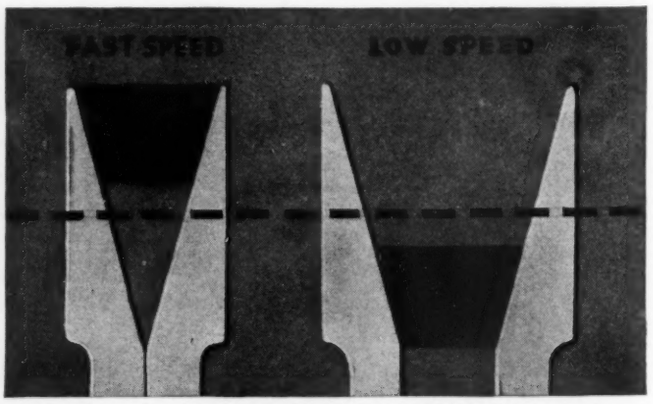
1. In most applications, an 1800 rpm motor with Texrope Drive will ably do the job of a lower-speed, direct-connected motor . . . *and* give you *exactly* the speed you want — *at lower cost!*

2. When you buy an 1800 rpm instead of 450 rpm 15 hp squirrel-cage motor, for example, 600 lb of critical materials are saved. And *you* save well over $200—with the drive figured in! This saving is typical.

➔*You Can Save with Single-Speed Instead of*



1. Infrequently needed speed changes can be had by changing from one size motor sheave to another. By juggling *complete* drives, speeds can be changed over the full range — from 1:1 to 7:1.

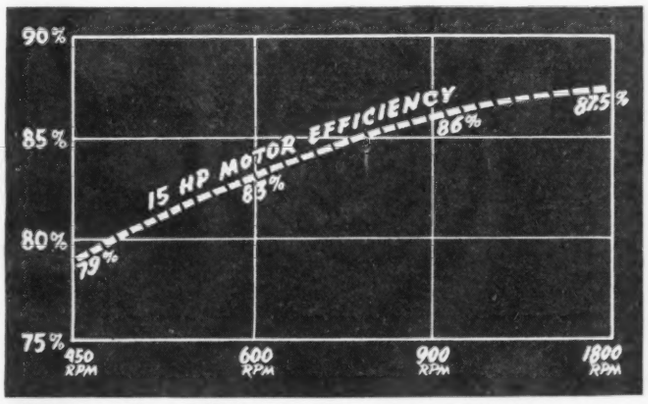


2. With the Allis-Chalmers Vari-Pitch Sheave, you can increase or decrease speed by adjusting sheave diameter, as above. Within limits, an unbroken series of speeds can be obtained.

Take a Fresh Buying!

WAR FORCES HIGHER EFFICIENCIES...

Low-Speed Motors...



3. Note that efficiency rises from 79% for a 450 rpm motor to 87.5% for a 1800 rpm motor. Comparing power consumption, the 1800 rpm motor saves you over 30 kw/24 hr. day.

Multi-Speed Motors...

3. Allis-Chalmers Vari-Pitch Speed Changer gives you infinite changes at the turn of a wheel — within 3.75 to 1. It's the most compact, flexible variable-speed transmission available.

It was good business in peacetime to use — as widely as possible — high-speed motors with Allis-Chalmers Texrope Drives... and single-speed motors with Allis-Chalmers Vari-Pitch Sheaves and Speed-Changers. And it's clearer every day that those material and money-saving practices are *vital* practices in time of war!

TODAY the whole picture of buying and applying motors has changed. Note at the left how much you can save for your country *and yourself* with high and single-speed motors made flexible by Texrope Drives.

As America's only builder of both electric motors and V-belt drives,* Allis-Chalmers has long advocated the proper combining of motor and V-belt drive.

And today you benefit from Allis-Chalmers' vast, pioneering experience in this field when you ask for and get the *right* combination of Lo-Maintenance Motor and Texrope Drive! Call your nearby district office. Or write ALLIS-CHALMERS MFG. CO. MILWAUKEE, WISCONSIN.

A 1560

*Allis-Chalmers *originated* the Multiple V-Belt Drive and Vari-Pitch Sheaves.

ALLIS-CHALMERS A-C MILWAUKEE

WE WORK FOR VICTORY

WE PLAN FOR PEACE

HOW TO GET LONGER LIFE *and* BETTER WORK FROM CARD CLOTHING

DON'T GO AT IT THIS WAY—— WHEN YOU SELECT WOOL FANCIES

Woolen and worsted mills use a great variety of fibres and blends. Therefore it is not surprising that they require almost as great a variety of card fancies. Last year we produced more than 80 different types in just one of our plants.

Obviously then the selection of the right fancy for the purpose should not be left to chance or to the inexperienced. Ashworth can help you in this respect. Our experience dates back to the earliest days of the card clothing industry and our 3 factories, 6 repair shops and 7 distributing points assure better service than might be expected under present abnormal conditions.

ASHWORTH

PIONEERS IN CARD CLOTHING . . . *ASHWORTH BROS., INC.*

Woolen Div. AMERICAN CARD CLOTHING CO.

3 FACTORIES
FALL RIVER
WORCESTER
PHILADELPHIA

6 REPAIR SHOPS
FALL RIVER, PHILADELPHIA
CHARLOTTE, GREENVILLE
ATLANTA, DALLAS

7 DISTRIBUTING POINTS
FALL RIVER, WORCESTER
PHILADELPHIA, CHARLOTTE
GREENVILLE, ATLANTA, DALLAS

SOUTHWESTERN REPRESENTATIVE: • TEXTILE SUPPLY CO., DALLAS, TEXAS

PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for all Types of Napping Machinery • Brusher Clothing and Card Clothing for Special Purposes • Lickerin Wire and Garnet Wire • Sole Distributors for Platt's Metallic Wire • Lickerins and Top Flats Reclothed

AN *Easy Way* TO GET RID OF ONE OF YOUR WORRIES...

On those looms and other machines in your mill where it's possible for ordinary set screws to work loose and cause you trouble and delays, take this easy step. Replace the plain screws with "Unbrako" Self-Lockers. Just tighten them up as usual and the knurled points dig in and hold the screws tight in spite of vibration or jarring. They're easily removed, though, with a wrench and can be used over and over. Don't wait any longer to get this easy, inexpensive protection.

Sizes from #4 to 1½" diameter.

UNBRAKO
WELT BAR SCREWS
are uniformly strong and accurate. Give complete satisfaction. Write for a free sample.

Pat'd. and Patents Pending

STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNA. BOX 582

— BRANCHES —
BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

Knurling of socket screws originated with "Unbrako" years ago.

Use tough

SHELL TEXTILIS OILS

THE PROPER LUBRICANT may mean the difference between a productive machine and an idle one. Keep your machines running at full capacity with the right Shell Textilis Oil. There's a grade designed specifically for each type of textile-machine lubrication.

Call in your Shell man now. Have him check over your lubrication set-up ... point out how Shell Textilis Oils can help you maintain peak production of quality products with your present equipment.

SHELL

THE LOUIS ALLIS CO., MILWAUKEE, WIS.

THE LOUIS ALLIS CO., MILWAUKEE, WIS.

Modinal* D...the All-around Detergent

FOR TOP RESULTS IN SCOURING WOOLEN GOODS SOAPING VAT-DYED COTTONS

Weapon of War for Textiles. Modinal D double strength detergent is proving its versatility and economy as mills set production records.

In Soaping Off Vats, for instance, full shade development is obtained and light fastness improved with Modinal D. Costs are reduced.

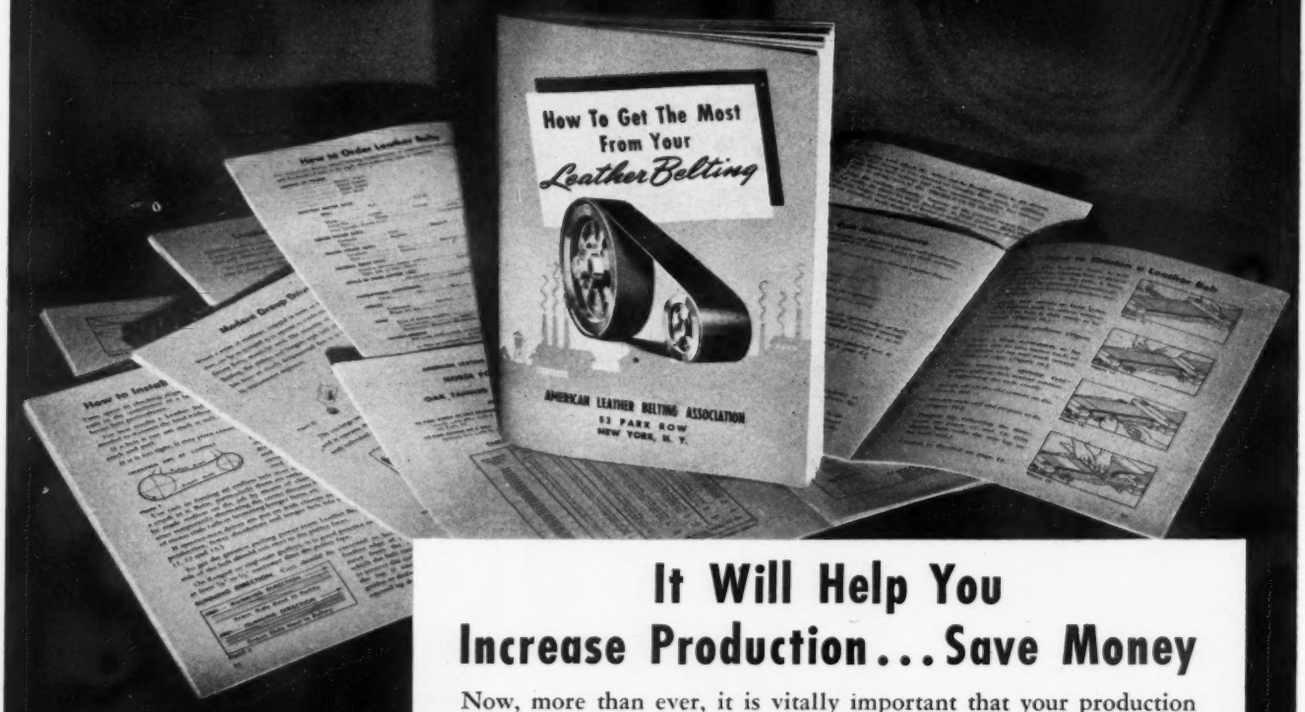
In Scouring Woolen Goods, Modinal D reduces rinsing time and temperatures. It eliminates blotchy dyeings and improves penetration. Results are uniform. Mills can accomplish real economies in time, steam, labor and water.

Take a short cut to improved results. Let one of our technical men show you where and how Modinal can speed up and improve your wartime production. The Gardinol Corporation, Wilmington, Delaware. *Sales agents:* Procter & Gamble, Cincinnati, Ohio—E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Delaware.

*"**MODINAL**" *is the trade-mark used by the Gardinol Corp. to designate a group of its fatty alcohol sulfates.*

MODINAL D *Fatty Alcohol Sulfates*

Here's A Practical Booklet That YOU Should Have!



It Will Help You Increase Production... Save Money

Now, more than ever, it is vitally important that your production equipment give top performance and the longest possible service. Since Leather Belting is so widely used to drive textile machinery and has such a direct effect upon production, more than ordinary attention should be given to its proper selection, installation and maintenance.

This booklet gives you complete and authoritative information on Leather Belting. It presents *facts*, arranged for easy reference and based upon the combined experience of leading power transmission and Leather Belting engineers. It will enable you to obtain the full benefits of better machine output and lower cost through the proper use of Leather Belting.

Every textile production man in America will profit from a study of this booklet.

This Booklet Will Tell You:

- How to Order Leather Belts
- Horsepower Ratings for Leather Belting
- How to Install Leather Belts Correctly
- How to Make Belts Endless on the Job
- How to Shorten a Leather Belt
- How to Clean and Dress Belts
- How to Align Shafting and Pulleys, and Other Useful Information

Ask Your Leather Belting Supplier
For Your Free Copy . . . or Write

AMERICAN LEATHER BELTING ASSN.
53 PARK ROW • NEW YORK, N. Y.

Rely on Leather Belting

"We are satisfied that the efficient, trouble-free operation of our spindles is due in large measure to proper lubrication with Gulfgem Oil," says the Superintendent of this mill.

The why of better spindle lubrication with

GULFGEM OIL:

It's Alchlor Processed!

NOW that your frames must run continuously for longer periods of time in order to meet production demands, more than ever you need the highest quality spindle lubricating oil you can obtain—an oil which provides better lubrication for these vital parts.

And that oil is Gulfgem, for Gulfgem Oil *alone* is refined by the Gulf Alchlor Process, the most effective method yet known for removing unstable hydrocarbons and gum-forming constituents from oils. Thus Gulfgem Oil provides a tough and stable film which insures minimum wear, minimum ends down, minimum power consumption, and maximum intervals between spindle base cleaning periods.

We suggest that you talk with the Gulf engineer in your vicinity about this highest quality spindle lubricating oil at your first opportunity. Or send the coupon below for the brochure "Gulfgem Oil"—no obligation, of course.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation · Gulf Refining Company C
3800 Gulf Building, Pittsburgh, Pa.

Please send me my copy — no charge — of the brochure "Gulfgem Oil."

Name_____

Company_____

Title_____

Address_____

Dear Pop:

Even an old Rainbow Divisioner like you would pop your eyes at the army we're putting together this time. Let me tell you, they're doing everything to make up just about the best bunch of fighting galoots you ever saw.

And that goes for what they do for us off duty, too! Take this new clubhouse we got just outside of camp. It's got radios, dance floors, nice soft chairs and everything. And, Pop, you can get something to eat that won't cost you a month's pay!

Now, the army isn't running this. The USO is. And most of the other camps got USO clubs too, because you and a lot of other folks dug down and gave the money to the USO last year.

But, Pop, you know what's happened since then. Guys've been streaming into uniform. Last year there was less than 2 million of us. This year there'll be 4 million. And the USO needs a lot more dough to serve that many men—around 32,000,000 bucks I hear.

Now, Pop, I know you upped with what you could last time. But it would sure be swell if you could dig into the old sock again. Maybe you could get some of the other folks in the neighborhood steamed up, too.

It will mean an awful lot to the fellows in camp all over the country. Sort of show 'em the homefolks are backing them up. And, Pop, an old soldier like you knows that's a mighty nice feeling for a fellow to have. See what you can do, huh, Pop?

Bill

GIVE TO THE

USO

Send your contribution to your local USO Committee or to National Headquarters, USO, Empire State Building, New York, N. Y.

AIR BORNE DESTRUCTION

CAN COME INSIDE INDUSTRY, TOO!

The special targets of enemy airmen are manufacturing plants—for here, at the sources of production, battles can be won or lost before actual combat begins. So every effort is made to protect these plants where the materials of war are made . . . camouflage and blackout, anti-aircraft batteries, even balloons swaying on leash in the sky help to keep enemy air forces from coming too close.

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In the Textile industry American Air Filters are preventing smudging and streaking and discoloration of products caused by dust, soot and smoke. Write for complete information on the Electro-Matic electric dust precipitator which collects air-borne particles of smoke, soot and dust electrically. Your air conditioning consultants will be glad to investigate and report to you on the performance records of American Air Filter equipment now in use in your industry. Free bulletins will also be sent on request. Write us.

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In Canada: **DARLING BROS., LTD., MONTREAL, P. Q.**

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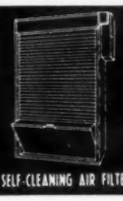
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The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with
War Savings Bonds

This space is a Contribution to America's All-Out War Effort by COTTON

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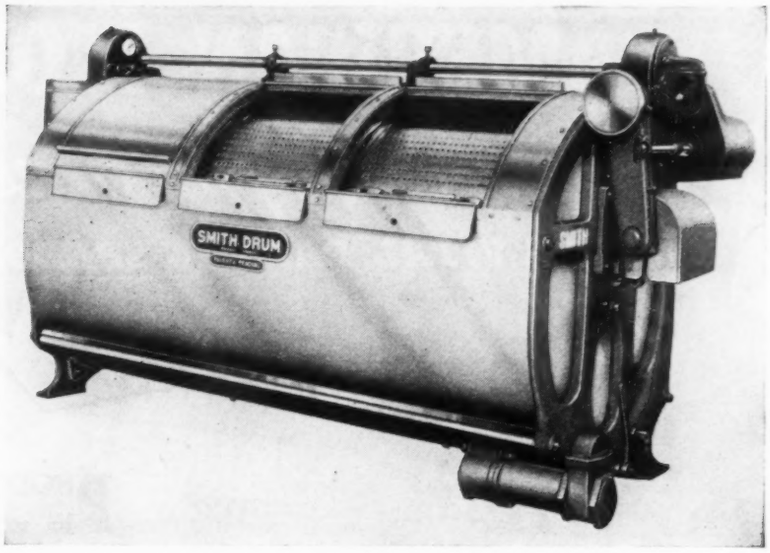

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Here's a machine that's responsible for the beautiful shades and tints of hosiery that milady wears today. It's the Type 12-RD Rotary Hosiery Dyeing Machine that puts the job of keeping shafts in perfect alignment up to SKF Bearings. And it's a job well done because SKF's have the ability to take radial and thrust loads in either direction the day around the year around, to run for long periods without lubrication, to maintain factory settings indefinitely. Wherever a bearing has an important job to do on a textile machine, you'll usually find an SKF doing it. 5158

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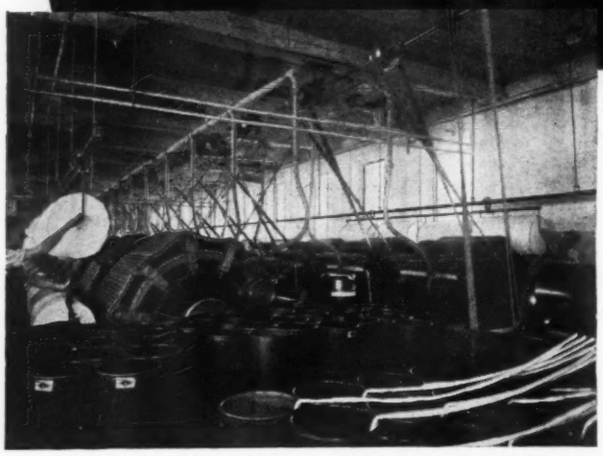
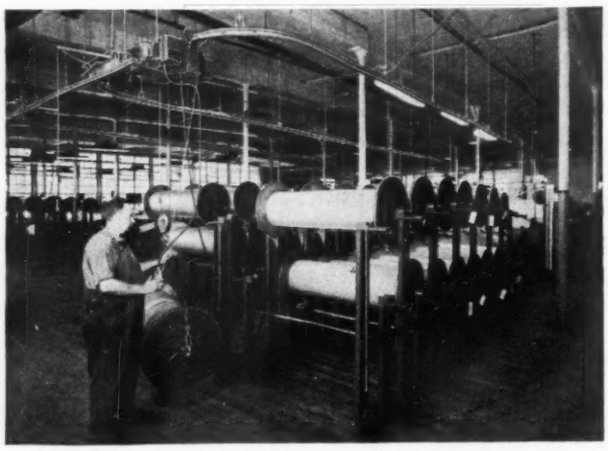


★ Handling laps to cords on special overhead carriers.

PRODUCTION moves easily and rapidly when American MonoRail Equipment is on the job. It relieves men from lifting and carrying . . . it keeps materials and products on scheduled routes without delay, congestion and damage in transit. It reduces fatigue and accidents and results in savings of time and money.



★ MonoRail system speeds up creeling of slashers.

American MonoRail Equipment is adaptable to any handling problem with no expensive upkeep and no interruption during installation. American MonoRail Engineers will gladly show you how to increase production and decrease handling costs. There is no obligation on your part—write today.

THE AMERICAN MONORAIL CO.

13106 Athens Avenue Cleveland, Ohio

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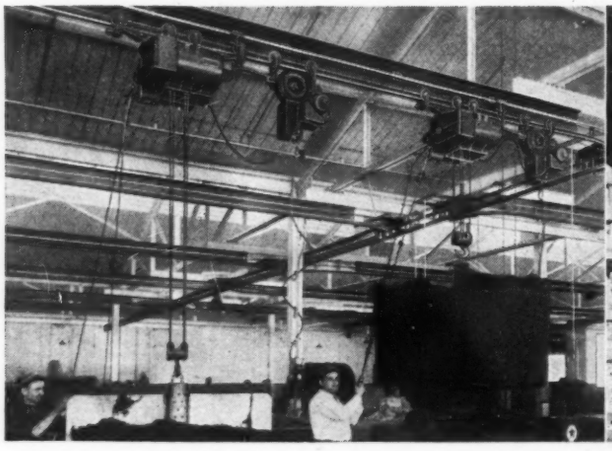
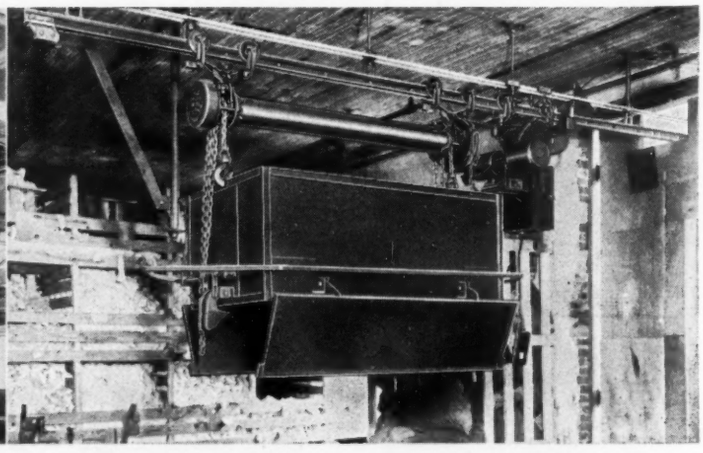


★ MonoTractor and hoist removes raw stock from piers.



★ Automatic carrier delivers grey goods to warehouse.

DECEMBER, 1942
Volume 106 Number 12

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SERVING THE
Textile Industries

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A complete Topical Cross-Index of all articles published in "Cotton" during 1942, including those in this issue, appears as a separate supplement to this issue. Please examine it, and note how, with a file of the magazine for the year, it will simplify your locating readily any article published here during the year on any subject. You will find it immediately inside the front cover.—The Editor.

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Well prepared, too, were our Textile Industries to supply millions upon millions of yards of cloth and fabrics which pass the Quartermaster's tests for everything from strength of thread to wear, wind, water, cold and sun resistance.

Well prepared, also, to help meet these demands were Dayton DeLuxe Pickers—the only Picker tried and proved tough enough to take the constant pounding of high-speed looms—thereby stepping up production and reducing Picker costs.

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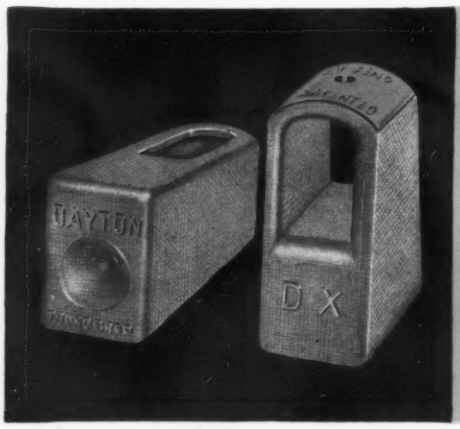

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Thorobred TEXTILE PRODUCTS
LOOM SUPPLIES- **Dayco** TEMPERED ROLL COVERINGS
MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

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SHORTS AND REMNANTS

"There'll Always Be a Santa Claus"

Comes word that Christmas tree and decorative lights are out for this year, or are, at best, to be dimmed and limited. Many a youngster will have to wait for that bicycle, velocipede, roller-skates, metal wagon, carpenter set. Milady will miss those silk hosiery, nighties, and slips, those electric irons, toasters, and other appliances, Dad will be better off, but even he will have a few substitutes here and there. Your friend, the car, will probably be weaned off gasoline by this time, especially if you live in the Eastern territory, and you won't miss getting those new tires for the old bus. Christmas tree decorations will be less bright. Some kill-joy had an article in the paper the other day to the effect that there would even be a shortage of trees.

In all the four corners of the globe, American youths will crawl out of foxholes, desert tents, barren quarters and hope for a day's respite from the nightmare of combat, shells and fighting.

Industries and employees as well as merchants will work until late Christmas Eve and start early the next day to keep up the fight on the home front—a fight against material shortages, labor shortages, delays and governmental interference.

A dismal outlook for Christmas 1942? Just get out "The Christmas Carol" and read about Bob Cratchit and Tiny Tim, or listen to the tales of woe from lands across the sea where disease and starvation have sapped the wills of entire nations. A dismal outlook for Christmas where the people of a united nation are happy, well fed, well and warmly clad, working toward a common goal—where these people (you and I) can find or fashion plenty of substitutes for some familiar things that may be missing? Christmas lights will burn, less glitteringly perhaps, but still they will burn; carols will be sung; faces will still light up with joy and pleasure at the sight of gifts, or perhaps with the exchange of a friendly nip here and there. Shortages, yes, but not of warmth, friendship, spirit and good cheer.

And from more hearts and throats than ever before, throughout the land, will go silent and vocal thanks to Above for the good things we have with us and prayers for guidance through a New Year.

As for us, we want to thank advertisers for their use of our pages during 1942, and our loyal readers for their continued interest which is responsible for the advertisers being with us—to all of our friends throughout the industry, thanks, a Merry Christmas and a Very Happy New Year.

Cross-Index of 1942 Articles Appears in This Issue

A COMPLETE cross-index, by subjects, of all of the articles appearing in "Cotton" during 1942 (including those in this issue) is sent to all readers as a supplement to this issue of the magazine.

You will find your copy, unbound, just inside the front cover of this issue. Hundreds of readers preserve this index each year, with their file of the magazine. Filed with the year's 12 issues, this index provides a quick and convenient method of looking up all articles that appeared during the year, on any one of a large number of subjects.

Sometimes we might publish an article that did not apply to your particular problem at the moment; then later you may run into something like it and wonder where you could find some articles on it. This index will show you immediately. Look it up now and try it out!

Series on Winding Starts Next Month

We have just participated in a real "scoop" in textile journalism, and want to let you in on it. The process of winding, one of the most important and certainly the most expensive (labor cost per pound) process in yarn mills and other plants using these machines, has not received its due share of discussion along with cards, spinning frames, looms, finishing processes, etc. This lack of practical articles in the trade press has been particularly noteworthy as regards information on how to calculate the proper number of spindles per operator on this important item.

Mr. Stribling

Our editorial department and J. W. Stribling conspired to do something about it, and we are proud to announce the result.

Beginning in the January issue, we will present the first of three articles by Mr. Stribling on "Figuring Work Load Calculations on Winding Machines". They will tell, in plain, practical mill language (no cosines, tangents or parabolas) how any mill operating hand-operated winding machines, of either the drum or precision type, can accurately and fairly calculate the proper work loads on these machines.

Mr. Stribling, a graduate in textiles of Clemson College (and their first three-letter man in athletics, by the way), has had 25 years of mill and textile engineering experience. He has been connected with the Judson and Dunean Mills, Saco-Lowell Shops and other concerns, and for the past 18 years has been sales engineer for the Universal Winding Company.

We believe these articles will be a distinct contribution to practical, textile literature, and we urge those interested to be on the look-out for them.

Women for Full-Fashioned

Starting with this issue, under the title "Where to Now?", in our Knitting Section, one of our contributors starts taking on the provocative subject of training women for full-fashioned hosiery operators. Full-fashioned mills have been hit hard from every direction, including the labor front. Since men have almost exclusively operated full-fashioned machines since they were invented, it is natural that the pinch should be the greatest here. Starting with this article, outlining the necessity for training women operators, this series will go further into the actual training methods of a progressive full-fashioned mill. We believe the series will serve a very definite wartime need.

◆

Likes "Rayon Finishing"

In a letter to Mr. K. H. Barnard, director of product research at Pacific Mills, Albert H. Grimshaw, professor of textile chemistry and dyeing at North Carolina State College, comments favorably on the series on "Rayon Finishing" by Mr. Barnard and Arthur R. Wachter, concluded in our November issue:

"I did wish to talk with you a minute to tell you that I thought you were doing a fine job with Mr. Wachter in the present series of articles running in COTTON In fact, I think so well of them that I am abstracting them, and using them along with other authors' articles in abstracts for some of my lectures. Confidentially, I have abstracted more stuff from yours than any of the others to date."

A. H. GRIMSHAW
Professor Textile Chemistry & Dyeing,
North Carolina State College,
Raleigh, N. C.

◆

Reprinting "Zelan" (Dec. 1941)

"We are sure that the readers of the *Textile Forum* would be very interested in reading the article ('Zelan' Dec. 1941). The *Textile Forum*, the textile magazine of North Carolina State College, should like permission to reprint this article."

BRANCH WHITEHURST
Editor, Textile Forum,
Raleigh, N. C.

◆

"Looking after Stragglers"

"Kindly send us at your earliest convenience 200 copies of the splendid article entitled 'Looking After The Stragglers' (Sept. 1942)."

H. R. TURNER
Assistant General Manager,
Dunean Mills,
Greenville, S. C.

"Please enter our order and mail 150 each of the following leaflets: 'Looking After Stragglers' (Sept. 1942); 'The Handling of Grievances' (June 1942); 'Some Causes of Grievances' (Aug. 1942)."

B. S. ROSE
Assistant General Manager,
Victor-Monaghan Co.,
Greenville, S. C.

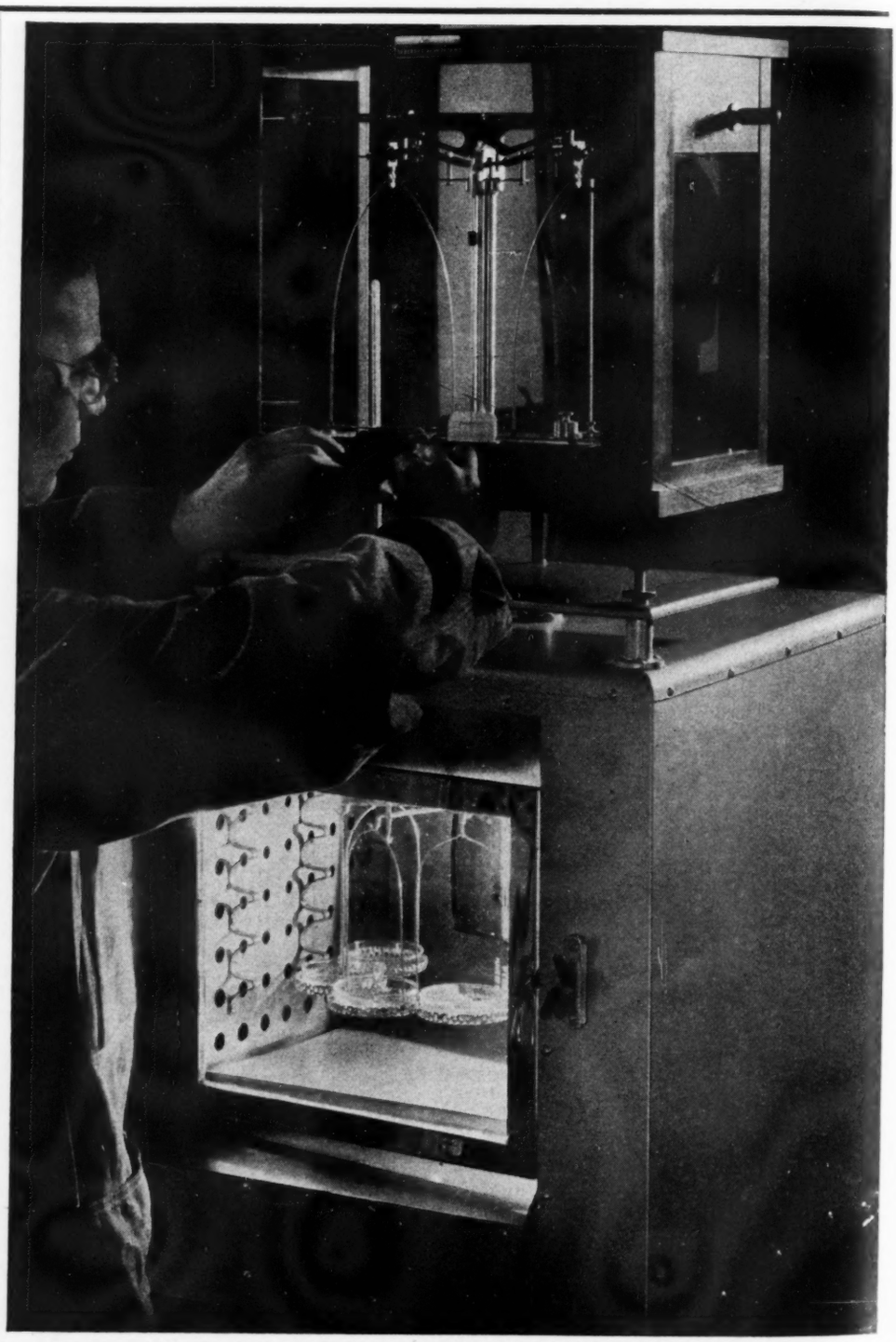
Textiles for '43

Under this title, our advertising department has prepared a summary of the part that textiles are playing in the war effort, the prospects for 1943 operation, the outlook for textile advertising during the coming year, and some headlines indicative of the approach that advertisers are making to this market during war times. Copies of this have been mailed to advertisers and prospects, and will be furnished to any salesmen or other readers who may be interested in this subject.

Oven-Weighed *at 300° F.!*

CONDITIONING OVEN

THIS conditioning oven is used to attain greater accuracy in such analytical investigations as the determination of the moisture content of yarns, the rate of evaporation and polymerization, and the rate of drying of finishes. By directly weighing materials at controlled high or low temperatures and high or low humidity while still in the oven, exact control is maintained during the entire analysis. A continuous record of the sample's loss in weight during the investigation is made possible by the analytical balance connected to the weighing pans within the oven. Once a sample is placed in the oven, it remains undisturbed during drying, and weighing, eliminating loss by handling.



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COTTON
SERVING THE
Textile Industries

Vol. 106 December, 1942 No. 12

High Production Requires Adequate Maintenance

THE TEXTILE MILLS of the United States have done one of the outstanding jobs of the war. If any other industry has a more impressive record, we haven't heard of it. The railroads and the steel industry have both done a wonderful job, and have had a lot of very favorable publicity about it. The textile mills have, we believe, beaten both the railroads and the steel industry in stepping up war production, but you never read much about it in the newspapers.

Many industries have been making remarkable production records after enormously expanding their plants. The shipbuilders and the airplane manufacturers, for example, have received reams of publicity for the wonderful job they have done. The munitions industry points with pride to what it is accomplishing, but of course it started with nothing and has grown enormously.

The textile industry has, however, without increasing its plants, practically doubled its peacetime production. This intensive program has put a tremendous burden on the mill machinery, which is mostly running 24 hours a day with no time for routine shutdowns for cleaning and fixing. Furthermore, practically all mills have had a tremendous labor turnover during the past year, and therefore have less experienced help operating and caring for the machines.

It is therefore not only important, but imperative, that these mills be permitted to get an ample supply of repair parts if they are to maintain the necessary volume of production for war and civilian needs. Representatives of the War Production Board have recently intimated that there may be drastic restrictions on the allocations of raw material for making mill repair parts, and if there is any possibility of such restrictions being put into effect, it is a matter of the utmost concern to the mills. Plants that double the hours of operation wear out their machinery much more than twice as fast, because there is not only less time for cleaning and routine inspection, but the increase in production inevitably brings a swarm of green help into the plants and green help inevitably increases maintenance. We certainly hope that the War Production Board will continue to provide the means for keeping textile plants well maintained and in good repair. The textile industry is one of our most important war agencies, and the variety of its products for the war is so great that it is practically impossible to segregate those mills which are on war work and those which are not. Virtually every mill in the United States is making something for the war. There is probably no important industry in the country which uses as small a proportion of critical materials with relation to the total value of its products as the textile industry. It would surely seem most unwise to hamper its production by denying it necessary maintenance.

The Scrap Campaign

We have been looking forward with a great deal of interest to some figures on the amount of scrap collected in the recent nationwide newspaper campaign. It may, however, be some time before any figures can be released, because of the difficulty of getting all of the scrap collected and reported. One thing, however, is fairly certain; there was not enough scrap collected, and we are going to have to keep digging deeper into possible sources of scrap. Our tremendous needs for scrap iron and steel have been accentuated by two things. The more acute of the two is the sudden increase in steel production and the demand for gray iron castings. The second cause, and one which will become progressively more aggravated, is the diminution of returning scrap. Normally there is a constant flow of returning scrap from worn-out and obsolete equipment which keeps returning through the junk yards to the foundries and steel mills. Until the war is over, our worn-out and obsolete equipment is going to have to keep on trying to do its job the best it can, and practically everything into which we are putting our enormous production of steel and iron is being sent abroad, where, if it becomes scrap, it cannot return to the foundries or steel mills. Normally, a very high percentage of iron and steel ultimately gets back to the processors in the form of scrap, but most of our scrap from now on will be littering battlefields or decorating the bottom of the ocean.

Unless something comes of new processes now being tried, to eliminate the necessity for so much steel scrap in the manufacture of new steel, we are going to have to scrape up every pound of scrap that can

possibly be spared from industry. There is an enormous amount of what we might call "questionable scrap", which ought not to be junked unless it is absolutely necessary, but which could furnish a great deal of junk if necessity forced its scrapping. As an example, a mill might have a number of obsolete spinning frames which had not been used in years. These frames could be run and could produce yarn under emergency conditions, but the scrap value to the war effort might conceivably be greater than their productive possibilities as operative spindles. Another mill might have a quantity of looms which cannot make war fabrics and are therefore shut down for the duration. If these are old model looms and normally should be replaced within a few years, it might be the part of wisdom to throw them as scrap into the war effort. Many mills have in their warehouses old machinery of questionable value. Any of it which can almost certainly be put back in service, should surely be preserved, but there is probably a good bit of this sort of equipment that will ultimately be needed at the blast furnace.

The recent scrap campaign probably got out most of the old bed springs, andirons and other miscellaneous junk from the homes of the people, and from now on, industry must furnish practically all of the scrap. The time may soon come when Federal inspectors will be poking around amongst the mills to see what can go on the junk pile. We think most of the mills have pretty well cleaned up their superficial junk, which is stuff that quite obviously is nothing but scrap, but when the war needs begin to claim some of this "questionable scrap", it is going to take a lot of conscientious deciding to determine what goes into the junk pile and what is worth saving.

Inflation Spreads

Since the election, there have been a few questioning voices raised in Congress suggesting that something really be done about inflation, which is spreading rapidly as is inevitable under the present wage policies of the Government. Anyone who doesn't think inflation is with us and getting worse daily must be staying at home. Restaurant prices in general seem to be up from 25 to 50 per cent, and where prices have not increased much, the portions have been reduced. Women's clothes seem to be up 50 to 100 per cent, and there are countless other things which have similarly advanced in price and where the OPA price ceilings don't seem to be effective.

A real showdown on this inflationary trend must be had in a few months. Retail sales have been higher this fall than ever in the history of the country, while at the same time the supply of manufactured articles for sale has been dwindling. While money gets more plentiful and goods get scarcer we are heading for some kind of smashup that is going to be very painful to all of us, except the new-rich on the Government payrolls who are making three or four times as much as they ever did before and can't possibly lose anything, no matter what happens.

The Government continues to pay money it hasn't got to people who don't earn it so that they can try to buy things they can't get. Unless this Government policy is checked, inflation can't be checked, and there is no indication that the Government intends to do anything about repealing the trick legislation which is causing this condition.

What About Manpower?

The President has just stated that something has to be done about adopting a definite manpower policy, and done within the next few weeks. It should of course have been done long ago, because the longer this is put off, the more painful the doing will be. Recent statistics show that the average hours worked in the United States by gainfully employed people is approximately 43 hours a week. Apparently, most of our manpower troubles can be solved almost instantly by raising this from 43 hours to better than 50 hours a week. Some of these short work weeks are a national scandal. In Akron, for example, the rubber workers' unions claim that 40,000 men must be added to the payrolls of the rubber industry to get out the material needed for the war. The 60,000 rubber workers now employed in that area have been working 30 hours a week. By working 50 hours a week, the extra 40,000 men could be found without putting another name on a payroll. Adding 40,000 workers to the Akron district would create chaos in housing, schooling and other services. Putting to work the people who are already there requires nothing but a little hardboiled determination on the part of those in authority.

At the same time, there are about half a million coal miners who have been working short time, but who could actually increase coal production as more miners are taken into the Army and Navy if they would do more work.

It has been frequently stated that a workman becomes inefficient and his production falls off when he works more than 48 hours a week. He apparently becomes fatigued if he has to work. It seems strange that our grandparents were able to work 72 hours a week in the days when work was work, and there were no automatic machines to do the hardest part of it.

55 hours a week is a perfectly reasonable work period for practically any kind of employment, but a man who has been accustomed to making $30.00 a week on his regular job, and has traded it for a Government job at $60.00 a week with time and a half above 40 hours, and who makes $93.75 a week in 55 hours, can get tired very easily when he wants time off to spend some of his new-found riches. Back in the days when a man had to work 72 hours a week if he and his family expected to eat, fatigue did not seem to come as early as it does now. This is no argument in favor of a 72-hour week. We believe it is too much to get the best results. But people used to do it and stand up under it, and those people would have considered 55 hours a week practically a loafer's schedule.

We are facing even more trying circumstances than our grandparents faced, and we may have to learn to stand up under a heavier load than they ever carried. Groups of people on a 30-hour work week are simply organized shirkers who are refusing to participate in the responsibilities of the war, and people who hold out for a 40-hour week cannot understand the realities of wartime necessity.

Water Repellent and Waterproof Finishes for Textiles (*Article 1*)

By Eric Croen

IN THE July 1942 issue, "Cotton" published an interesting article reviewing the chemicals used in the textile industry*. Among those mentioned were products used in treatments for fireproofing, for combatting mildew, and for rendering fabrics water-repellent.

This is the first of three articles, elaborating somewhat on these three kinds of treatment, telling of the chemicals and methods involved in making textiles resistant to water, mildew and fire. In outline, these discussions will consider brief reviews of past methods, show with more details what is now general practice, and indicate some developments that probably will come in the future.

Since present production is largely for our armed forces, with civilian trade largely secondary, particular attention will be paid to government specifications, which are efforts to standardize the physical and chemical requirements of military fabrics and finishes. For the most part, these are adaptations of the best in commercial practice, along with the specific tests necessary to determine the quality. Yet, severe exposures and new uses called for "protective" finishes on a scale never anticipated. Some of the newest developments are still military secrets, while others will have to wait until peacetime before the chemicals and the market can be developed to the fullest extent.

The present article will be devoted to water-repellent and water-resistant finishes.

TEXTILES may be made water-resistant by two different methods: (1) by coating with a rather heavy film which resists the water and also fills the pores to such a degree that no air can pass through; or (2) by applying a water-resistant substance to the individual fibers and threads in such a way that the openings in the weave are not blocked, leaving the fabrics still porous to air. The first is called *waterproofing* and is more usually done on heavy fabrics, such as duck or canvas used for covers, tarpaulins, awnings, sail cloths, etc. The second gives a *water-repellent* effect and is more often applied to lighter cloths, such as those for garments, because it does not reduce the comfort of "letting the body breathe".

Methods of Waterproofing

In either case, the prime purpose is to keep dry the things they cover. Not only must the water be shed so that it will not penetrate the outer cloth, but the fabric itself should not absorb water which would add greatly to the weight, whether the product be a bathing suit or a tent. A wool coat, for instance, would be up to 70 per cent heavier when wet than when dry. Secondary reasons are also important; when properly compounded, a water-resistant finish adds to the life of fabrics used outdoors; for clothing, hosiery, tablecloths, etc., spotting by liquids is much reduced and soiling is more superficial; preventing wetness and therefore coldness of sports clothes, for example, is a definite health feature in winter. These purposes are well understood and the public has been educated by elaborate advertising.

Without doubt, the best and most expensive method of waterproofing consists of coating with films of pyroxylin, drying oils, or rubber. Artificial leather on card tables, slickers and rainsuits are examples of each of these. Rubber is now being replaced by vinyl resins, such derivatives as vinyl chloride, the copolymers. We will not mention these further except to point out that the government specifications accept them for several uses. They are applied with pigments and plasticizers by the regular knife or calender methods; since they require no elaborate curing, they are within the range of some textile finishing plant equipment. Some examples of these vinyl resins are:

Greases and Waxes

PQD (Philadelphia Quartermaster Depot) 256 for jungle hammocks calls for one type of coated fabric. PQD 71C and 151 call for OD resin-treated cloths for raincoats and suits. Army Air Specification 16094A cloth waterproofed with vinyl chloride type. Marine Corps Specification for poncho, rubberized, now employs such substitutes.

Cheaper methods of waterproofing make use of oily, greasy, or waxy substances applied in emulsions or more generally from solvent solutions or in melted condition. The list of such substances is long, including drying oils (linseed, etc.), waxes (like paraffin, beeswax, etc.), petrolatum, oxidizing resins, wool grease and bituminous pitches. All do a good job of waterproofing when properly applied, but with the exception of the bituminous class, they all make a cotton fabric less durable when exposed to light outdoors. Fortunately, a way of counteracting this deterioration was discovered, consisting of the incorporation of various pigments in the mixture. Burnt umber was found to be one of the best, though raw sienna, lampblack, and even aluminum powder all help to shield the fabric from the sun's rays. A simpler case illustrating the same phenomena is the fact that a piece of duck dyed with mineral colors will stand up longer than the grey goods to outdoor exposure.

The Bituminous Pitches

The bituminous class consists of asphalts, both natural and those from a petroleum base, the amorphous mineral waxes—all of which are better than either pine or coal tar pitches. They are cheap and effective, being used at the rate of about two pounds per gallon of sol-

(*) "A Review of Chemicals in the Textile Industry", by B. Reid Clanton, research department, Callaway Mills. Page 65, July 1942 issue of COTTON.

THE CONCLUDING installment of this discussion on methods of making textiles waterproof and water-repellent will appear in the January issue. It will be followed by similar discussions, by the same author, on methods of mildewproofing and methods of fireproofing textile fabrics . . . . . .

vent. Their dark color is a disadvantage, though not for such things as tarpaulins and wagon covers. For light-colored waterproof coatings, beeswax is one of the best materials but since it is brittle, it is mixed 1:4 with petrolatum. Paraffin wax is very cheap but its several disadvantages restrict its use: the ease with which it crystallizes even when mixed with softer petroleum products, which means that it will crack readily; the fact that it is stiff when cold and yet will melt easily with moderate heat; and the way it deteriorates quickly in light.

The large amount of such substances which must be put on to give tests for waterproofness is a factor that limits their use to heavier cloths. For example, the government specification for tarpaulins—K-P-146, type II—allows a 35 per cent increase in weight for a No. 4 duck, 45 per cent for a No. 8 duck, and 55 per cent for No. 12 duck. Other specifications include PQD 135 for waterproof covers used over sleeping bags, while Army specification 6-70B for camouflage nets allows the use of tar. These and Army specification 3-138A permit a wide range of formulas as long as the result meets the tests and the substances put on are not deleterious to the fabric.

The Water-Repellent Finishes

Space does not allow much elaboration of suitable mixtures, so only two typical formulas will be cited. For paulins, a mixture of 65 parts of amorphous mineral wax, 20 parts of lead oleate, and 15 parts of beeswax is dissolved in solvent and several coats are applied on both sides until the desired proofness is obtained. Another calls for 8½ pounds petrolatum, 1½ pounds beeswax, 5 pounds earth pigments in 5 gallons of mineral spirits. Besides khaki, the pigments may be in many colors: white, buff, red, etc. Pearson's book on this subject is still authoritative, and many articles scattered through magazines can be consulted. (See *American Dyestuff Reporter*, January 19, 1938, pages 507/17). A good summary of such treatments may be found in Farmers' Bulletin No. 1157 of the Department of Agriculture.

It is quite possible that the first water-repellent finish was an accident. A hundred years or so ago, when alum was widely used as a mordant, perhaps someone soaped such mordanted goods by mistake and found that the action of the alum and the soap together shed water so well it couldn't be dyed. This discovery was really worthwhile, and until a comparatively short time ago, such two-bath methods were purposely used to give textiles a water-repellent effect. Aluminum salts and soap are still the basis, but the application is worked out in greater detail. For example, on fabrics for clothing, an excellent process of several steps would be as follows: after dyeing, the goods are soaked in acetate of alumina 6 degrees Baume, and dried—a padder and a set of cans could be used; the goods are wound, taken to a jig, given a single run through a 5 per cent soap solution at 122 degrees F., squeezed and dried; and finally calendered. For added repellency, 5 per cent Japan wax can be added to the soap bath in which case the temperature should be raised to 194 degrees F. Many such processes, with several variations, have been worked out, some for continuous operation with much saving of handling and labor.

Because the two-bath processes are cumbersome, one-bath methods have been more widely used during the last 10 years. Stabilized wax emulsions with alumina formate or acetate were put on the market with emphasis on their convenience and their good performance along with a great deal of advertising which often exaggerated the actual value of the resistance to water, especially as to permanence to washing and drycleaning. Numerous products were offered, and some manufacturers started a tag system whereby the finished goods were labelled with statements as to their water-repellency. In spite of some inferior finishes, the public began to ask for this added feature, and there was a healthy growth in the use of such product on all kinds of fibers and textiles: cotton, wool, rayon; on garments, hosiery, piece and knit goods. In the wool field alone there still is a tremendous possibility of much extended use for both men's and women's wearing apparel.

Specifications for Water-Repellent Finishes

The Quartermaster Corps was quick to recognize the value of a water-repellent finish on many types of cloths used for military purposes and so set up standards that these should meet. These standards immediately took into account the fact that the wax-alumina-soap type would not stand even one laundering or one drycleaning. Furthermore, to protect the laundrymen and drycleaners who were doing work for the Army camps, a standard for water-repellent compounds was established. This is tentative specification PQD 115A, and it is interesting to examine its requirements.

Speaking of the emulsion form, which is called Type I, the first general requirement is that when properly diluted it can be applied to fabrics either by immersion or spraying, and be suitable for use in any finishing plant or laundry. The emulsion must be stable: to dilution with ordinary tap water in all proportions; to acidity from a pH of 4.0 to 6.5—almost neutral; to centrifuging for 15 minutes at 100 degrees F. at 750 r.p.m. (this tests its homogeneity); to temperatures from 20 to 200 degrees F. for 30 minutes though in application only from 70 to 160 degrees F.

As for the composition—methods of analysis are given—the 31 per cent total solids are distributed into 21 per cent for waxes, 2½ per cent for aluminum oxide from the aluminum salts usually the acetate, and 2 per cent for inerts, which take in the emulsifying agents. In most commercial products this is usually glue, gelatin or casein, but these are specifically prohibited, as are petrolatum and other fillers. The wax is usually paraffin, often

with enough carnauba wax to raise the melting point from 124-5 to 148-150 degrees F.

To judge the value of such an emulsion when applied to a fabric, a piece of 8.2-ounce duck, previously wet-out, is put in the Launderometer containing a 3 per cent solution four times the weight of the dry cloth, and run 20 minutes; then extracted so only a 50 per cent increase in wet weight results (figuring only 1½ per cent emulsion left in); dried and conditioned. Two tests are run. The treated duck must show a spray rating of 90 and a hydrostatic pressure test of 25 cm. If such a cloth is laundered or drycleaned, nearly all of this water-repellency would be lost, but it can be restored by re-treatment. And so the specification requires such a re-treatment of the laundered and drycleaned portions, this time with a 2½ per cent dilution instead of 3 per cent, but the same in other details, whereby the original ratings of 90 and 25 must show.

This performance test is equalled and surpassed by many water-repellents on the market. One known to the author had ratings of 100 (spray) and 28.4 (hydrostatic) initially; and 90 and 26.6 on re-treatment. Such tests are of great value not only in evaluating such products but also their money value. One widely-advertised emulsion met these government requirements, but it cost twice as much as another less known but excellent water-repellent.

A list of Army uses for such water-repellent finishes includes: Specification 6-142B cotton duck for case covers; 6-238A duck or twill for bedding; 6-288 canvas for leggings; 6-185C webbings for cartridge belts, etc.; 8-53A wool overcoating, 32-ounce OD; 8-122 wool covert cloth, dark blue, 12-ounce; PQD 127 outer fabric for mackinaws; PQD 135 sleeping bags, cotton or all-acetate; and Army Air 16105 lightweight khaki cloth.

This list gives a good cross-section of government uses for this type, the emulsion itself, how to test it, and what to use it on. It is still up to the textile finisher to take into consideration the many details of the actual application and his experience with civilian goods shows that water-repellents vary somewhat in the "handle" they produce and the effect on dyed shades. These are important things to watch. The condition of the fabrics before this kind of finishing has some critical requirements:

They must be free to a large extent from sulphates and chlorides, also alkalies, wet-out agents, and soaps—all of which upset the emulsion or counteract the effect wanted. As stated before, the emulsion is easy to handle and conveniently applied on many kinds of machines. If the cloth is dry, it can be put on by a padder or quetsch, and directly before a set of dry cans, a tenter frame or a loop dryer. The amount to put on depends on the individual fabric, and some work has been done on the variations which the different constructions and types of cloth require (see *American Dyestuff Reporter*, January 6, 1942, pages 6/12.)

Generally, the manufacturer recommends solutions of from 3 to 5 per cent on the weight of the goods. Note how much lower this is than the amount needed for water*proofing*. In order to get this, several factors of the simple operation have to be studied: the time of immersion, the temperature of the liquor, the amount of squeeze—all of which influence the take-up. If this pick-up is 100 per cent, then the amount applied is the same as the percentage in the diluted emulsion. For a heavier squeeze, the concentration must be increased. Where the goods are wet or have just been extracted, the strength of compound added must be greatly increased, usually doubled, to allow for the water taken in.

Besides application by a roller squeeze, immersion in much weaker liquors for a longer period of time, say up to ½-hour, is frequently done as the last operation of the dyeing processes, whether in a dye beck or piece dye kettle or a jig. For penetration of very heavy fabrics, the jig is perhaps the only good method.

For such operations, a standing bath may prove economical. New lots are put in the same liquors repeatedly with smaller additions of the water-repellent and water to bring the same level each time. The amount to add depends on the goods, the drainage given at removal, the time and temperature, which influence the "exhaust". Manufacturers recommend additions amounting to one-eighth to one-half more each time, and for individual applications, the results must be studied.

Doing It in Package Machines

Water-repellents have also been put on yarns and other forms of textile fibers with good results. They have been applied in the package dyeing machine. For instance, on the rayon yarn which is braided into cordage used on parachutes as per specifications AXS 728 and 707. The "exhaust" in this case is rapid, and seems complete in about three minutes, but it is largely a filtering action, as there is no real affinity for the wax. Such work is difficult to get even, so it must be watched carefully to get even passable results. Of course, yarn can also be treated in continuous lengths, as on a slasher.

—and in a Kier

Because of the rush of wartime demands, all sorts of trials are being made. We have heard of water-repellents being put on in the kier, where the goods are left for several hours or overnight at a temperature of 160 degrees F. An Allen type of kier is used, the liquor being pumped around rather than depending on the steam to work the spray, as the emulsions are sensitive to direct steam.

This brings up the question of temperature again. For some products, a temperature as low as 100 degrees F. is recommended, while the majority will stand 140-160 degrees F. More recently, one firm developed an emulsion that can be safely used at 200 degrees F. and even boiling temperature. The advantage of such a higher temperature in any wet finishing operation is obvious. If the dyes can stand it, much better penetration and a finer deposit of wax will result. The temperature of drying is also important. On a loop dryer, 250 degrees F. should be used; with cans, 15 pounds steam pressure. This melts the waxes into the fibers and gives a better water-repellency than air or low temperature drying. The slight abrasive action of the cans also helps to produce a smooth film effect.

Water-repellents are also applied

to goods to be "rubberized", for even though one side is coated with an excellent waterproofing agent, the other side must not be absorbent. They are used in preventing the bleeding of direct colors in cold water. Here a double effect occurs as the aluminum acetate helps fix the direct colors while the waxes prevent the water from getting to them. This is just a modern version of "showerproofing", which was done formerly by a two-bath method: first the aluminum acetate solution was dried in, and then run through an ammonium stearate softener. Millions of yards were run this way for the rubber trade, but the modern way is now being used; also on direct-dyed nettings and comforter cloths.

(The second part of this article will appear next month. In it the author discusses water-repellents that make use of organic solvents as the medium of application instead of water; resins in waterproofing and water-repellent treatments; water-repellent finishes that are also mildewproof; and the subject of accurate terms and testing methods.

(He will follow then with a similar article discussing treatments for mildewproofing, and one on fireproofing treatments.—The Editor.)

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A. S. T. M. Standards for Textile Materials

The American Society for Testing Materials, 260 South Broad Street, Philadelphia, Pa., has issued the 1942 compilation of the society's standards on textile materials, as developed by its Committee D-13. This year, each of the 73 textile standards is given in its latest form. Of these, 19 cover cotton and cotton goods—yarns and threads, hose and belting fabrics, carded grey goods, woven cloth (shrinkage), broadcloth (bleached), sheeting (bleached wide), terry toweling, corduroy, etc. Nine standards cover rayon including specifications and tests for rayon staple, commercial weight, fabrics (strength when wet), silk and rayon fabrics (shrinkage and fastness to washing), etc.

There are 10 items covering wool, including fineness, fiber length, with specifications for wool and wool yarns, felt, pile floor covering, etc. Other widely used standards cover asbestos, glass, and miscellaneous materials such as single jute yarn, jute rove and plied yarn (electrical purposes), lime for textile purposes, household blanketing, and electrical insulation (thickness).

Sixteen of the standards are general in nature covering testing machines, fibers (identification and determination), fire-retardant properties, evaluating compounds for insect resistance, resistance to water, finishes on textiles (identification), and resistance to micro-organisms.

In addition to the specifications and tests, considerable other related information is given including a 15-page section on photomicrographs of common textile fibers, information on basic properties, yarn number conversion table, table for relative humidity, a glossary of terms relating to textile materials which includes a discussion with illustrations of defects in woven fabrics, and definitions. The book also includes a list of papers on textiles presented before the Society or at meetings of Committee D-13 and there are abstracts of three recent papers involving statistical methods or technique in testing as related to this field.

The book contains 444 pages and is available, in heavy paper cover, at $2.25 per copy.

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Dunlap Now With the Cotton-Textile Institute

G. H. Dunlap has been appointed an associate to John T. Wigington, director of the division of textile research of The Cotton-Textile Institute, with headquarters at the Institute's research office, Clemson College, S. C. Mr. Dunlap, for 13 years until July 1941, was an instructor in carding and spinning at Clemson; since that date he has been working on a program of textile research sponsored by the Southern Textile Association, The Arkwrights, and The Textile Foundation. He was graduated in textile engineering from Clemson in 1928, and has had graduate work at the University of North Carolina, M. I. T., and Pennsylvania State College.

Mr. Dunlap

◆

Portfolio on Cotton Hosiery

A "Portfolio of Design" containing 145 designs for women's full-fashioned cotton hosiery is now available by hosiery manufacturers from the Bureau of Home Economics, Agricultural Research Administration, U. S. Department of Agriculture, Washington, D. C.

The portfolio, prepared by David H. Young, senior technologist in the Bureau's textile and clothing division, is made up of 38 plates, each presenting several of the designs as originated by Mr. Young. Information given for each design includes: a photographic illustration of the fabric, 1½ times actual size; a design sketch for laying out movement of the picot bar; and transfer point lay-out of the picot bar.

Designs covered in the portfolio were knit from combed, gassed, and mercerized yarns on 42- and 45-gauge machines from yarns ranging in count from 90s/2 to 140s/2. Other effects may be obtained by modifying these specifications, using other machine gauges, or substituting yarns of other nunubers. Likewise, although designs contained in the portfolio are of the type designated as novelties, each can be modified for manufacture on installed equipment of 39-, 42-, or 45-gauge machinery, or in accordance with style requirements.

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Davison's Knit Goods Directory

Davison Publishing Company, Ridgewood, N. J., has issued the 52nd annual edition of Davison's Knit Goods Trade, listing the plants in the entire knitting industry, and including also yarn spinners, dyers, agents, wholesalers, chains and retailers, as well as the knitting mills themselves. More than 2,400 mills are reported, arranged alphabetically by states, and then are also shown classified by product, and indexed alphabetically. The listings have been brought up to date by corrections involving changes made during the past year since the issuance of the previous edition. The price of the directory, office edition, is $6.50 per copy; the pocket edition, $5.50.

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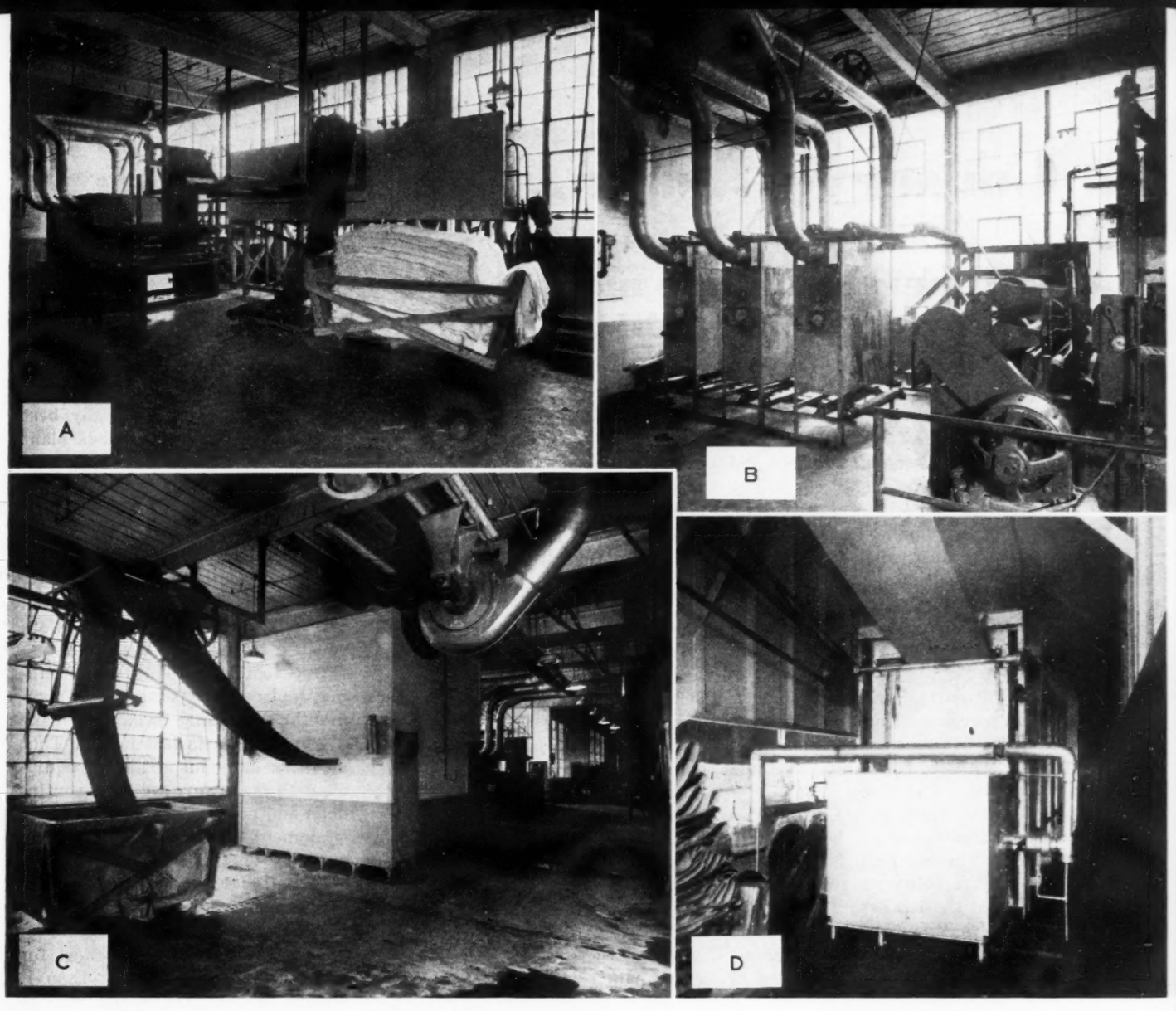
Book on Fire Brigades

S. C. Toof & Company, P. O. Box 55, Memphis, Tenn., have published a book "The Organization and Training of Industrial Fire Brigades". This book has received the endorsement of some of the foremost authorities in the fire-fighting field. It gives a review of a program outlined for the protection of business and industrial establishments. The book is being used as a manual in a large scale training program now under way, and is being used by many business and industrial establishments throughout the country as a safeguard against the hazards of fire and other destructive elements in the present emergency.

The regular price of the book is $1.00 per copy, with a special quantity discount available to those organizing private fire brigades among their own employees. Copies of the book may be secured also for use in connection with large scale training programs.



Modern Range for Pigment Dyeing

THE ACCOMPANYING photographs show views of a modern range recently installed at The Trion Company, Trion, Ga., for resin-bonded pigment dyeing on herringbone twills.

The goods are fed into a special 3-roll pad which allows the goods to dip into a shallow bath containing the pigment. It is then squeezed out in the bottom nip and passes into another shallow bath with one immersion roll, for the second dip. Then the goods pass through the top nip. The reason for the goods being handled in this manner is to insure evenness in color on both sides of the fabric.

The goods then pass through a solvent dryer which is equipped with Infra Red burners which liberate the solvent and break up the pigment. They then pass through a vertical drying machine consisting of 8 to 10 cylinders with low pressure steam applied to the cylinders which dries off most of the solvent fumes.

The goods are then conveyed to a curing chamber which sets the color. This curing chamber has a temperature of from 400 to 500 degrees so as to bring the goods up to the maximum temperature for arriving at the best results. It is then customary to soap the goods after this process in order to wash out the surplus pigment to eliminate undue crocking.

Photograph A shows the platform for mixing tanks and the tension device.

Photograph B shows the latest Butterworth 3-roll padding machine with solvent dryers.

Photograph C shows the vertical drying machine totally enclosed with necessary suction fans for carrying out the solvent fumes.

Photograph D shows the curing chamber.

Photographs, Courtesy H. W. Butterworth & Sons Company.

For previous descriptions of the dyeing-bleaching-finishing plant of The Trion Company, see "Progress at Trion", page 79, February 1938 COTTON, and "Trion Enlarges Dyeing-Finishing Plant and Adds Bleachery", page 75, February 1942 COTTON.

Conserve...save...conserve...save

A timely, wartime message for everyone in the mill.....

"CONSERVE . . . save . . . conserve . . . save . . . ", those are the words every manufacturer and plant employee must constantly mutter to himself every working day for the duration of this war! Not only must we conserve and save so that our own individual plants can keep in operation and stay in business but we must do it as a contribution to the war effort also.

Spare parts are hard to get. Many plants may have to close unless the equipment they now possess is handled carefully, saved and conserved. Every single piece of equipment must be maintained in the best of condition, largely with what we have on hand.

But just being general about it won't get the job done; we have to be specific and to the point. Here is a list of conservation suggestions recommended by the head of one large institution:

"(a) Keep 'em clean. Dirt causes wear and tear. Don't let the slightest speck of dust or dirt get near any machine at any time!

"(b) Lubricate all equipment properly; follow the manufacturers' instructions to the smallest paragraph.

"(c) Replace spare parts only when necessary but don't wait until the last moment. Keep the part running as long as it is possible for you to do so.

"(d) Service regularly all electric current distribution points, your motors, switches, fuses, etc., and have it done by one who knows; don't permit guesswork as these types of equipment are going to be extremely difficult to replace.

"(e) Allow your motors, and other machines, sufficient time to warm up; don't expect a cold motor to start pulling a load immediately. This will be particularly important during the forthcoming winter because of the lubrication angle.

"(f) Throw nothing away . . . when a part, a bearing or piece of equipment wears out or needs replacement attempt to have it repaired so that it may be used at some time in the future if necessary. If such repair cannot be done now put it aside for later repair when time and equipment will be available and remember that great strides are being made in discovering new methods of machinery replacement and repair; maybe that particular part can't be repaired today . . . but can be next week! So . . . save it!"

There are many other suggestions. One of the most important is to watch your gears . . . first tiny obstacles, dirt or foreign matter of any kind on gear teeth can lead to broken teeth or other machine damage and there are plenty of gears on machinery in the average canvas goods manufacturing plant; gears difficult to replace. Where such foreign obstacles get into the lubricating oil it makes that lubricating oil practically an abrasive and causes even more damage in another way. Clean and inspect gears regularly, store oils and lubricants carefully to see that they are not contaminated and *never* use re-claimed or inferior oils or greases or re-use old grease . . . not during these times!

Pointers on Lubrication

One word on lubrication . . . follow the manufacturer's instructions and use only the grade recommended. Lubrication is no longer solely an operating and maintenance point in the plant . . . it's now conservation as well! So we have asked a lubrication authority for some suggestions the manufacturer can follow, with an eye toward using his lubrication practices in conservation as well as lubrication. Here they are:

"(1) Never lubricate a machine while it is in motion; that means trouble and wasted lubricant as well.

"(2) Don't over-lubricate; that, too, is waste. It's generally best in the average canvas goods plant to use small oil cans that dispense small portions of oil.

"(3) Be clean while you lubricate. Excess oil deposits promote the collection of dirt, dust and grit on your machinery.

"(4) Keep oil containers covered carefully and clean oil cans before you use them."

Due to the difficulty of obtaining replacement parts every manufacturer is going to have to make his present parts last longer. That means a daily inspection of equipment to make sure we have continuous and efficient operation of our equipment. Here's the advice of an engineer on this subject:

"Keep your eyes constantly open for signs of uneven or jerky operation of your equipment; and let your ears be ever on the alert for a sound that is different than it should be . . . that's the way to conserve your equipment because you'll discover little troubles while they can be remedied and before they cause major damage.

"Have one man in your plant go about with a screw-driver in his pocket and make it his job to try every screw on every piece of equipment at least once a month and preferably oftener . . . a lot of troubles can be saved by keeping screws tight! And check bushings and shafts . . . these are overlooked in the average plant and yet are extremely important."

It is a good point to keep in mind that friction is the greatest cause of wear and tear on any equipment that rotates or moves. Anything we can do to reduce friction will increase the life of the equipment in our plants. And dust is the greatest cause of friction even in the modern plant where cleanliness is a strict rule . . . dirt and dust can still get into the

equipment and must be fought morning, noon and night.

Painting and cleaning walls regularly helps a lot toward fighting the presence of dust; so also does the use of the right kinds of cleaning equipment. The little plant where the janitor cleans up with a broom is always the one where friction causes quickest damage to gears, shafts and motors; the reason is obvious.

All of these pointers are growing more and more important as these war days proceed along . . . yet it is becoming more and more important that we also save all broken and worn out parts because of acute shortages of many materials and the difficulty of obtaining replacement for our plant equipment.

Gears made from steel, bronze, brass or other materials should be saved as well as other machine parts made of similar metals. They should be saved for future use or accumulated for disposition at some future date. Who knows . . . it may become necessary for us to trade in old parts on new replacements just as we trade in the "empty" for a tube of tooth paste or shave cream today.

Incidentally, do not throw away a transformer or motor of any kind as the copper can be reclaimed and the cores can be used again.

An idle plant will mean a dead business and none of us can afford to permit our plants to become idle during this war; just as the Army and Navy must "Keep 'em Flying" so we must "keep 'em rolling". And we cannot do this unless we conserve and save . . . conserve every possible piece of equipment we have . . . save every replacement by better maintenance and care . . . and thus conserve and save our own individual business for many years to come!

A Novel Lap Conveying System

AN INTERESTING and unusual application of material handling has been made at the Pepperton Cotton Mills, Jackson, Ga., for handling laps from the picker room to the card room. The system consists of four lines of MonoRail running from the picker room directly to the adjoining card room. On each line is a hand-power carrier that carries four laps at a time. Each line of track runs directly over a row of cards. The carrier is loaded in the picker room, the operator gives the carrier a push and it rolls by gravity down the slightly-inclined track. When the carrier reaches the end of the card room it stops and the operator removes the laps.

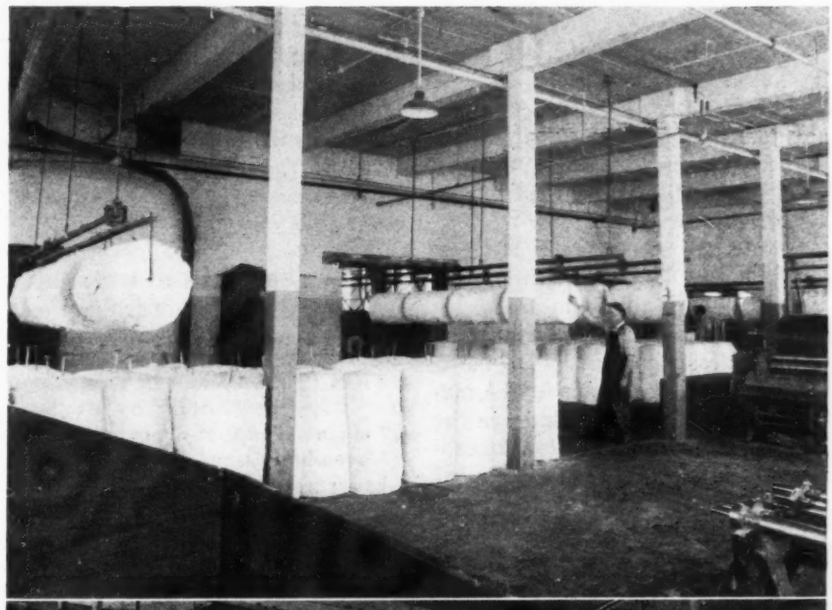
The operation requires only one man as the same man who loads the laps also unloads them and places them on the cards.

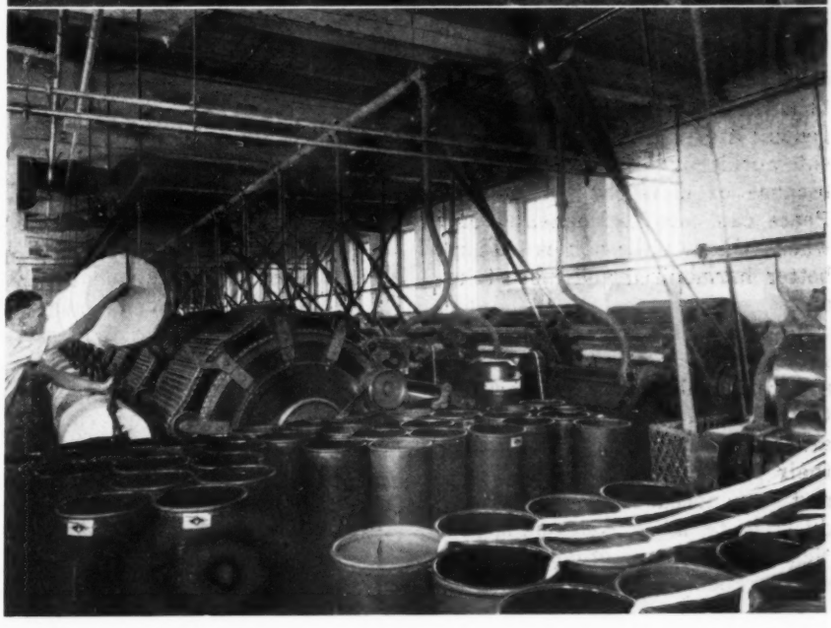
Due to narrow aisles, the former method was for a man to carry the laps on his head and walk sideways down the alley.

The equipment is installed under low head room conditions, as the humidifier pipes are only 9 feet from the floor.

The top photograph herewith shows the starting end of two of these tracks in the picker room. The lower photograph in the card room shows the carriers in use back of the cards.

The complete installation was made by The American MonoRail Company, of Cleveland, Ohio.





Why Must There Be "Groups"?

By W. M. McLaurine

Secretary-Treasurer, American Cotton Manufacturers Association

IN HIS REPORT to the nation over a National radio network, Mr. Wendell Willkie spoke of traveling 31,000 miles around the earth in less than 50 days. He further remarked that he was on the ground at least 30 days of that time.

The purport of the statement was to show how little the world is and how nations are crowded up against each other as a result of scientific progress.

No nation and no city is remote. We are all neighbors in the sense of nearness and accessibility. There is no East, no West; no North or South. We are all world citizens piled into one neighborhood by the scientific tools of man.

All of this description is material and physical. It deals with things, and things are only a means to an end. They are inert and incapable of use unless employed by the motivating forces of mankind. The motivating forces of mankind are the impulses directed by its philosophies—the minds and spirits of men.

In this great and compact globular neighborhood of physical things and persons there are great differences in mental concepts and philosophies. Sometimes they are called ideologies, but in plain English, the minds of nations and of peoples are so different. The present world conflict is being waged because of different philosophies. Peace can come permanently only when these philosophies become better harmonized and more tolerant.

In this nation we have different groups or classes of people which are rather distinct — not because they live in different physical areas such as nations, but because their philosophies are so different and pronounced. Agriculturists, industrialists, labor, consumers, politicians and many others struggle among themselves and with each other because they have only a class philosophy and have not attained to thinking in the terms of national welfare.

In every neighborhood live representatives of all of these groups. Physically they are neighbors, mentally they are strangers. All strangers are viewed with a certain amount of suspicion, which, if not allayed, soon develops into prejudice and dislike. Stealthily do the mental attitudes form until some conflict or emotional disturbance arises and then the clash of philosophies with their narrow and selfish motivations begins to whip each of the groups into a closer compactness of aims and ideals, of prejudices and hates.

Neighborliness can never be attained as the result of mere physical nearness. Neighborliness can come only from a common sympathetic understanding of mind and philosophies. This statement does not mean that philosophies must be identical. It means that they must not be antagonistic nor conflicting. It means that the principles of material motivation shall not clash. It means tolerance and forbearance. It means understanding and co-operation in neighborly activities.

When such conditions do not exist, distance begins to appear with all of its suspicions and complications. It is more necessary to be neighborly in mind than it is in physical nearness. This mental distance can perhaps be more clearly understood when the discussion is brought into a narrower and more intimate sphere.

In many homes, the father lives such a busy life that he sometimes forgets many of his duties toward his family. He takes them for granted. They are natural relationships and nothing can disturb them, he thinks. One day something happened. His adolescent son developed an attitude or committed an unsocial act that demanded a serious conference between father and son. The father was shocked to find out how great the distance was between his thinking and that of his son. The physical nearness was evident, the provident home with all of its comforts was evident—in fact, every factor of physical expectation and demand was there—and yet an almost unbridgeable distance had developed between the mind of the father and that of the son.

This common understanding between father and son was the most vitally important necessity in their domestic life. Physical nearness does not always mean mental or philosophical nearness. Practically all of the domestic tragedies of life occur because of the distances between mental outlooks and the intolerance resulting therefrom. Most families would always be preserved and remain intact if care could be observed in forming a family philosophy of workable and comprehensive ideals. Such conditions are not always the fault of one, more than likely they are the fault of all. Relationships are not studied to find the point of irritation. Too much is taken for granted and too little is done until a disaster brings harmful results.

Capital and management are the father and mother of the great industrial labor family of this nation. They have lived and produced and made great contributions to the general welfare along with the ben-

THIS IS the second in a new series in "Cotton" by Mr. McLaurine. The first appeared in the November issue. Previously, we had presented 12 articles by him directed mainly to plant executives and supervision, as to various phases of public and industrial relations.

The present series is intended to provide, for the operating executive, information which it is hoped will be useful for transmitting to the employees of the plant . . . . . .

efits that have accrued to them personally.

They have worked in peace and happiness for a long time. Under the impact of the scientific movement, conditions have changed. Management has become complicated. Labor in its new world, in some places, has become removed from the philosophy of management. This preoccupation of management plus the new physical environment in which labor has been placed has weakened the family ties. Labor, in such an industry, came in one day with some new ideas about life that surprised management. Management began to discuss with labor its philosophy which to a degree did not appeal to labor. A conflict resulted. The distance between minds became evident.

Now to return to the family circle—father and son realized that each was a necessary and component part of the family and that society cannot exist without reputable families, so they resolved to associate together more and that each would study his own philosophy and that of the other so they could enjoy mutual confidences.

Their differences were family differences and were to be settled within the family even though compromises were necessary.

Labor and management, which are the two human factors in industry and therefore the only factors with minds and philosophies, must not fail to be co-operative in their relationships, each one trying to understand the other. The scandals arising in our industrial family life are making bad reading. They give to the public a bad reputation about industrial relations.

Just as the individual family is the unit of safety in our social life, so is the individual industrial family the unit of safety and progress in our industrial life. There must be no mental distances between labor and management.

October Cotton Issue

In October, COTTON, *Serving the Textile Industries* reported to its readers on the research and promotion being put behind cotton during the war year of 1942. This picture was presented with the co-operation of cotton mills throughout the United States, commission houses and other advertisers in a special section entitled "What the Cotton Industry Is Doing for Its Customers." Comments from all sections of the industry, such as these, are still being received:

"This gives me another opportunity to tell you what a grand job you did for the cause of cotton promotion. It represents a real landmark in the history of this undertaking."

CLAUDIUS MURCHISON
President,
The Cotton Textile Institute, Inc.,
New York, N. Y.

"I want to take this opportunity to congratulate you on the October 1942 issue of COTTON which, I believe, is one of the best editions you have produced for some time."

A. K. LANDAU
Saco-Lowell Shops,
Boston, Mass.

"You and your associates have done a wonderful job, and one that should prove to be of inestimable value to the raw cotton industry. On behalf of this industry, I wish to express our very sincere gratitude for and appreciation of this magnificent evidence of your co-operation."

OSCAR JOHNSTON
President,
National Cotton Council of America,
Scott, Miss.

"Major Talkes and I have both enjoyed the October issue of COTTON which Mr. McKenney was good enough to give me on his return from the New York meeting."

LT. PAUL K. McKENNEY
Reclamation Shop,
Clothing and Textile Section,
Camp Lee, Va.

"I have felt the urgent need for a continuous and persistent program of promotion on the part of all those really interested in cotton. It goes without saying that synthetic fibers are here in a big way and here to stay, but there are many angles related to the possible increased consumption of cotton that might help us void some of the fears that loom so large in these days when synthetics, out of sheer necessity, seem to be getting quite a boom. . . . "

J. BRUCE McCULLOUGH
Vice-President,
Comer-Avondale Mills, Inc.,
New York, N. Y.

"We have especially enjoyed this issue of your magazine as we are at present doing, and preparing to do more, cotton research work here in the textile department of Texas Tech."

L. E. PARSONS
Texas Technological College,
Lubbock, Texas

"It is certainly a thorough job in promoting the idea of "Cotton Freshness for Fighting Trim', and I very much appreciate the consideration given to the Maid-of-Cotton promotion."

H. B. TITCOMB
Lever Brothers Company,
Cambridge, Mass.

"I have just glanced through this special number and want to congratulate you on doing such a fine job."

FRANK B. WILLIAMS
Agent,
West Point Mfg. Co.,
West Point, Ga.

"We have read this edition and wish to congratulate you on the splendid job you have done."

W. E. HENDRICK
Secretary-Treasurer,
Alabama Mills, Inc.,
Birmingham, Ala.

Tests on Belting

Conclusive evidence that the life of transmission belting and v-belts is greatly influenced by the tension factor, and that an increase in the tension over that recommended for the belt operation will result in failure of the belt long before it should break down, is furnished by data from a series of tests conducted under the supervision of George H. Stewart, belting engineer of The B. F. Goodrich Company, Akron, Ohio.

Three grades of the present wartime construction of transmission belting were used in the tests, which were run at 15 pounds per inch per ply, a 720 pound total for the tension, the recommended figure; and at 18 pounds per inch per ply, a total of 864 pounds tension, on 4-inch pulleys. Belts were all 6 inches wide, 30 feet in length, spliced in 10-foot endless lengths. Tests were all highly accelerated.

Conclusions reached from the tests, the report says, are that an increase of 3 pounds per inch per ply over the recommended tension results in the belt giving only approximately one-third of its useful service life.

Similar conclusions were drawn from tests conducted on one style of v-belts, used on a popular make washer. The accelerated test consisted of a dead load suspension with the driver sheave 2⅝ inches outside diameter by ½-inch top by 36 degrees and the driven sheave of 5¼ inches outside diameter by ½-inch top by 40 degrees. The first three belts under a tension of 125 pounds center to center, averaged 4½ hours of life before failure. The second three, under 95 pounds tension centers, averaged 27.4 hours, while the last three, under 80 pounds, averaged 86 hours.

In giving these test results, the company points out that because of their short, highly accelerated nature, they are not an index to life in actual service, and were made only to get data on the ratio of tension to belt life.

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Booklet by Fidelity

Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa., has published an attractive book descriptive of its organization, facilities and products. The company was established in 1911, as manufacturers of knitting machines, and subsequently has broadened its field of products to include many other developments in the field of designing and building intricate automatic precision machines.

The book shows views of the company's offices, plant, etc., with descriptions of each operation involved, and also describes the machines and specialties which it produces.

Human Relations, Supply-Saving Feature Durham Discussion

Reported by A. R. Marley* and C. W. Howell**

HUMAN relationships and conservation of supplies featured the discussions at the fall meeting of the Eastern Carolina Division of the Southern Textile Association, held at the Erwin Auditorium, Durham, N. C., on Saturday morning, October 31. The sectional chairman, D. E. Long, overseer carding and spinning, Oxford (N. C.) Cotton Mills, was in charge of the meeting.

James T. McAden of Charlotte was introduced as the secretary-treasurer of the Southern Textile Association. Mr. McAden succeeds B. Ellis Royal who has been called into service. Edward C. Horner, of Oxford (N. C.) Cotton Mills was added to the executive committee of the division.

Chairman Long stressed the fundamental principles contributing toward a practical understanding of human relationships and asked for discussions on the best methods of training help from the standpoint of (a) safe workmen, (b) satisfied workmen, (c) satisfied foremen.

Training Help and Safety

"We have had considerable improvements made in our textile machinery," said Mr. Long, "but the most delicate of all machines carries the same principle and thought and nearly the same action, as it did many years ago. The most important factor that we have to deal with in our work today is the human relationship. Our machines can be ever so important but unless we have the human element necessary to handle these machines they are worthless."

E. C. Horner was called upon for a discussion on human relationships in connection with safety. Mr. Horner said, "Human relationships, not the machines, is the biggest factor in safety. It is possible to erect safety guards to eliminate the hazards of operation but when we come to the human element we are confronted with a different problem. We have but one course to follow, that is, to deal with human relationship to safety and the hazards of industry. The responsibility of safety rests on the shoulders of the foremen and the fellow workers. Human relationships is the connecting link between the foreman and those under his supervision."

"The key to this perplexing problem is to understand men and the work they perform. In today's changing events we have the opportunity to make safety a part of the job and not just another added feature. Help people adjust themselves to the rapidly changing conditions and show them the safe way to do their new work. Regardless of the number of years' experience with a company every man needs training for new methods and change of habits. Human relationships is the fundamental principle and foundation to safety."

How to Treat Accidents

Commenting on Mr. Horner's remarks V. E. McDowell, of Rosemary Manufacturing Company, said he would like to know how accidents were handled in the plant whenever a person was injured. Mr. Horner stated that in his plant the overseers had all passed first aid training courses and have a first aid kit in each department to handle minor injuries. The more serious injuries, of course, require a physician. Answering further questions Mr. Horner said they had not had any experience with dusting wounds with the sulfa drugs as reported used by the United States Army but they were very much interested in the new method.

Chairman Long asked G. E. Moore, superintendent, J. M. Odell Manufacturing Company, Bynum, N. C., for a discussion on satisfied workmen. "Human relationships is a subject we have to discuss freely and I think it is the most important thing we have had to deal with in a long time," Mr. Moore said. "Many of us know how to fix machinery when it gets out of order and we can tell when it is doing the job, but this human side of it is different. I believe today that few of us are perfectly satisfied. I am confident that neither more wages, better houses, nor shorter hours will in themselves make people satisfied. It is our experience that we have more absenteeism today than ever before. Many of our employees do not seem to care whether they work or not. I am frank to confess that I do not know the correct solution to the problem. In teaching help it is necessary for the instructor to be thoroughly familiar with the job and to be a person who has character and a reputation for honesty and loyalty."

*Superintendent, Mill No. 1, and **Superintendent, Mill No. 6, of The Erwin Cotton Mills Co. Snapshots by the authors.

A group at the Durham meeting. Left to right, **P. B. Parks**, manager, The Erwin Cotton Mills Co., Durham, N. C.; **F. E. Bozeman, Jr.**, manager, southern repair shop, Whitin Machine Works, Charlotte, N. C.; **D. F. Lanier**, superintendent, Oxford (N. C.) Mills; **B. M. Bowen**, superintendent, Salisbury (N.C.) Cotton Mills; and **E. C. Horner**, overseer, Oxford (N. C.) Mills

M. R. Harden, superintendent, Mill No. 4, Erwin Cotton Mills Company, Durham, N. C., said it has been his experience that workers who come from out in the country and are given regular work in the mills, generally speaking, are the best satisfied and actually make the best help. They usually give less trouble and are more satisfied than the fellow living near the mill in a company house, who because of the lower cost of living, actually nets the most money. Mr. Lanier remarked that in his case they had very little trouble with absenteeism from the people living in the village. Due to the handicaps in transportation and the many disadvantages that they have in living away from town, he found that they could not keep those from a distance as well contented as those who lived in their village.

T. W. Mullen, vice-president and superintendent, Rosemary Manufacturing Co., Roanoke Rapids, N. C., and W. H. Miley, Jr., general superintendent, The Erwin Cotton Mills Company, Erwin, N. C., at the meeting in Durham

Reducing Absenteeism

P. B. Parks, manager, The Erwin Cotton Mills Company, Durham, N. C., said that he understood some plants had been offering bonuses for people who make full time. "People are not war-minded, generally speaking," he said. "They don't seem to realize the importance of getting the finished material to the Quartermaster as quickly as possible." Mr. Parks agreed that with a bonus plan to discourage absenteeism you would probably find that you were paying this bonus to about the same group of people most of the time.

T. W. Mullen, superintendent, Rosemary Manufacturing Company, Roanoke Rapids, N. C., stated, "I believe in following the Golden Rule and treating people as you would like to be treated. Get the idea over to them that they are going to be treated fair and just, and that they can expect to get proper treatment at all times. In connection with this, I have handled the employment of all the people in my plant for many years. We are now working 1,800 people. It is right burdensome to interview all those folks, but you get your finger on people, and get the personal touch that an employment agency does not give. I like for our people always to feel free to come out to the office and talk to me about any grievance they think they may have and I try to impress on them that they can expect fair treatment. Fair treatment, I think, has done more than anything else to bring about the harmonious relations we have had with our people."

Commenting on Mr. Mullen's remarks, W. H. Miley, general superintendent, Mills No. 2 and No. 5, Erwin Cotton Mills Company, Erwin, N. C., said his experience had been very similar to that of Mr. Mullen. "We have found when our employees come up and ask if they cannot have or do so-and-so, if the supervisor they are talking to will take the time to listen courteously, and he has a good reason why their request cannot be granted, if he will take the time to explain his reason to them he will have more satisfied workers."

"Satisfied Foremen"

The next question asked for experience with satisfied foremen. Mr. Lanier of Oxford said he thought the best way to keep them satisfied was to Keep Them Busy. "Small mills such as ours have had a rather hard task during the last few months," he explained. "I have always insisted on our people keeping the machinery running even if the supervisor has to do some of the mechanical work himself. Under the present government regulations this combination mechanic and supervisor can only spend a limited portion of his time at mechanical work. There is just as much work in supervising as in fixing, but it is hard on the small plant because this combination man is still undergoing a transition from a fixer to a supervisor. I think one way to keep our foremen satisfied is to give them more responsibility and for the superintendent to be sympathetic and considerate with their problems."

A Method of Training Weavers

The discussion moved next to the method of training workers. A. R. Marley, superintendent, Mill No. 1, The Erwin Cotton Mills Company, Durham, N. C., outlined a plan that his plant used to train weavers. The plan is as follows: Each learner stays on basic instruction on four looms for four weeks. If the person demonstrates the ability, he is then put on nine looms for four weeks, and then on 24 looms for two weeks. A competent instructor is provided for this 10 weeks instruction and he has six learners under his supervision at all times. The learner is required to spend four weeks on a set of looms with a spare weaver after he has completed the ten weeks under the instructor, and this makes a total of 14 weeks instruction before he is allowed to take a set of looms by himself.

Virgil McDowell, Rosemary Manufacturing Company, stated that his company had undertaken a training program — Training-within-Industry —sponsored by the War Production Board, and so far had trained 83 people to be job instructors. B. F. Ryals, Rosemary Manufacturing Company, who has been one of the instructors in this plant, and who had completed a course offered by the board, illustrated in a demonstration that it was necessary to teach by demonstration as well as by instruction.

Conservation of Supplies

The second part of the program consisted of a discussion on conservation of machines and supplies through proper lubrication, periodic inspections, and overhauling.

D. L. Gery, electrical engineer, Erwin Cotton Mills Co., was to have given some information on the proper lubrication and general upkeep of electric motors; however, Mr. Marley reported that Mr. Gery had been sick for about two weeks and was not able to attend this meeting.

Mr. Marley then told something of their methods of oiling motors and other machinery. He said that the electric department had the entire respon-

MOTOR LUBRICATION CHART

LOCATION	FREQUENCY	DATE OILED	OILED BY	OIL NEXT
No.1 Opening R.	60 Days	3-10-41	T.A.	5-10-41
No.2 Pickers	30 Days	2-17-41	J.W.S	3-17-41
No.3 Condenser	60 Days	4-28-41	T.A.	6-28-41
No.4 Stripper	4 Months	1-3-41	H.L.	5-3-41
No.5 Sliver Lap	30 Days	2-17-41	J.W.S	3-17-41
No.10 Drawings	30 Days	2-17-41	J.W.S	3-17-41
No.42 Wood Saw	6 Months	1-1-41	M.B.	7-1-41
No.43 Shop Elev.	90 Days	3-15-41	M.B.	6-15-41
No.44 Loom Motors	60 Days	4-28-41	T.A	6-28-41
No.65 Frigidaire	4 Months	1-3-41	H.L.	5-3-41

Illustrating a simple and practical form used in keeping an accurate and up-to-date record of motor lubrication . . . . . .

sibility for the upkeep of all motors in their plants. "It is just as bad to put too much oil in a motor as it is not to put enough," he stated, "and we have trained electricians who clean and oil all motors. This plan has worked very successfully for us and thanks to the efficiency of the electric department we have very few breakdowns due to burned-out motors and bearings."

In discussing the oiling of other machinery, Mr. Marley stressed the importance of having a definite oiling schedule. He said that in their plant such a schedule is outlined on a chart which is placed where each oiler will have access to it at all times and in this way each oiler knows what parts are oiled every day, twice a week, etc.

F. W. Broyals, electrician, Oxford Cotton Mills, Oxford, N. C., was asked by the chairman to tell of his experience in the oiling and care of motors.

Mr. Broyals said, "The best thing we have found is to keep the motors clean and the oil at the proper level in them. We do this by checking often. We check, clean, and oil motors on Saturday and make a second check on Monday before starting time." Mr. Broyals stressed the importance of checking the motors before starting time because it was possible for some of the oil to be blown out of the motor if it is cleaned with compressed air. He said that they make special checks to see that switches are tight at all times.

C. W. Howell, superintendent No. 6 Mill, Erwin Cotton Mills Co., Durham, N. C., told of a special chart which they use in keeping a constant check on all motors. He said that every motor in their plant is listed on this chart and there are also spaces to record the location of the motor, the oiling frequency, the date oiled, by whom oiled, and the date for the next oiling. He stated that when anything happens to a motor it is very easy to check the chart for the last lubrication date and that the chart serves as a very definite method of checking the correct oiling frequency for individual motors. (A sample chart of this nature is shown in the accompanying illustration at the top of this page.)

A. W. Faris, overseer of spinning, No. 4 Mill, Erwin Cotton Mills, told of a special cup which they have for oiling overhead shafting while the machinery is in operation. Mr. Faris explained that this cup is one of the pressure oiler type, one-half gallon to one-gallon capacity, and is equipped with a goose-neck spout seven to nine feet in length. He explained also that it is easy for an oiler to get accustomed to using this oiler and that by practice he can determine the number of pumps required to fill a hanger, so that they have a minimum number of hangers overflowed. It was pointed out that the end of the spout is constructed so that it serves as a reamer for cleaning out the oil holes in the hangers.

Mr. Marley told of a special grease cup that he had seen used on card cylinder, doffer, and licker-in bearings. It was pointed out that this cup is screwed into the top of the bearing and is equipped with a small plunger, the end of which rests on the shaft. The grease is fed to the bearing by the vibration of the plunger on the shaft.

Inspecting the Machinery

The discussion moved next to the inspection of machinery and Chairman Long called on Mr. Miley to tell what method of inspection they used. Mr. Miley's discussion follows: "We have a regular system in the carding and spinning which is part inspection and part overhauling. At regular intervals we take out all rolls and clean them, examine all parts, especially the driving end, and clean them, inspect all bearings and repair any part that shows excessive wear. All settings are checked to be sure that they are correct." He emphasized the importance of constant inspection by the overseers and assistant overseers.

"The problem of inspection in the weave room is much bigger", said Mr. Miley, "but we do have a regular system of inspection in which the head fixer, assistant overseers, and overseer inspect a certain number of looms each day. Each loom is gone over completely by the inspector, who makes notes of everything that he finds wrong and any adjustments of settings that need to be made. A copy of the notes is given to the loom fixer and after the necessary repairs and adjustments are made, the fixer turns the notes back in to the overseer or assistant overseer to show that he had completed his work."

Mr. Miley said that he thought it very important to have each worn or broken part inspected before it is thrown away to determine whether it can be repaired. He stated that they require a fixer to turn in the old part to the supply room before he is issued a new part, the old parts being kept for regular inspection by some member of the supervisory force. If it is found that the part can be salvaged it is carried to the machine shop to be welded and repaired.

Mr. Miley outlined briefly a system they use in which a record is kept of every new part issued to each fixer. A monthly tabulation of these records comes to the superintendent's office and if it is found that a certain fixer is using an excessive number of new parts the head fixer goes to his set of looms and tries to find out why he is using too many new parts.

Commenting further on oiling and inspection schedules, Mr. Miley expressed the opinion that it is very important to have a definite schedule to follow and to be sure that the schedule is adequate.

Snapshot at New York by Robert W. Philip

Participants in the "off-the-record" forum on textile research war problems, during the Textile Research Institute meeting in New York. Left to right, Major Frank M. Steadman, of the Philadelphia Quartermaster Depot; Milton Harris, director of research for The Textile Foundation and the Textile Research Institute; Harold DeWitt Smith (speaking), vice-president of A. M. Tenney Associates, and also of TRI; Lieut.-Col. Bestor Robinson, of the Office of the Quartermaster General; and W. D. Appel, chief, textile division, National Bureau of Standards

Wartime Activities Explored by Textile Research Institute

THE THIRTEENTH annual meeting of the Textile Research Institute was held on Friday, November 13, at the Hotel Roosevelt, in New York City, with an encouraging attendance of interested members at the business session in the morning, augmented by a larger number of guests at the luncheon session; and a capacity attendance at an "off-the-record" forum on war problems of the industry in the afternoon, which concluded the program.

The Textile Research Institute was formerly the U. S. Institute for Textile Research, the name having been changed just a year ago, when a broader program of activity was launched, with Fessenden S. Blanchard being made at that time full-time president of the organization. It functions in close relationship with The Textile Foundation, created by the U. S. government to sponsor and finance textile research and education.

In his report at the business meeting, Mr. Blanchard related the progress of the organization during the past year, pointing to a healthy increase in membership and interest. He reported an increase in membership, of all kinds, of more than 100, to a present total of 331; an increase in income from less than $6,000 to an estimated income this year of $36,000. The last year, he said, has been one of organization development and adjustment to the war program. The Institute staff now includes four full-time members, including a new full-time editor, and, under the new arrangement with The Textile Foundation, the services of Dr. Milton Harris, with his group of research associates and their complete laboratory facilities at the National Bureau of Standards, are available to the Institute, Dr. Harris being director of research for the Institute as well as for the Foundation.

How textile research was mobilized for war was related by Mr. Blanchard; this began with the organization on April 7 of this year of the Textile Research War Council of leading association executives to serve as a basis of advice and contact for the Institute in obtaining and distributing research information on important war problems, and to aid in determining what the most important problems were, what had already been done on these problems, and how best to organize and undertake additional research.

Textile War Research Problems

Among the important research problems on which the Institute and foundation are now co-operating are the following: Wool conservation in the development of fabrics for the armed services; work on the possibilities for utilization of high strength cotton yarns in order to obtain lighter weight military equipment without loss of serviceability; substitution of cotton or other fibers for manila and sisal for cordage purposes; improved aviation clothing to reduce heat losses in high altitude flying; accelerated ageing of military fabrics; resistance of fabrics to ultra-violet light; and the planning of textile research through a textile research planning committee.

Another project of the Institute-Foundation is a warp sizing research on spun rayon in which 17 member companies are participating. A newly-established information service is bringing together existing research knowledge on many subjects, and is responsible for a new survey of the waterproofing and water-repellency of fabrics, which followed a widely-used report on the mildewproofing of military fabrics. A report on flameproofing is in preparation.

Mr. Blanchard referred to the outstanding work of the Institute of Paper Chemistry, at Appleton, Wis., and announced that a committee from the Institute was scheduled to visit the paper institute the week following. This committee, besides Mr. Blanchard, included Fuller E. Callaway, Jr., president of Callaway Mills, LaGrange, Ga., who is a vice-president of TRI; M. Earl Heard, dean of the Philadelphia Textile Institute; and E. T. Pickard, treasurer of TRI. Their trip included a visit to the Armour Research Foundation in Chicago, and Mellon Institute in Pittsburgh. Mr. Blanchard said that "Several years ago, Dr. E. H. Killheffer, former president of TRI, called our attention to the achievements of the Institute of Paper Chemistry and recommended a plan for the textile industry along similar lines. Dr. Simon Williams, of the University of Texas, at the recent meeting of The Cotton-Textile Institute, offered the plan of the Institute of Paper Chemistry as the solution to the research needs of the cotton industry. While it is unlikely that the methods of one industry can be applied, as they are, to another industry, perhaps the *ideas* of

another industry can be."

In the business meeting, Mr. Blanchard was re-elected as president and executive secretary; and Fuller E. Callaway, Jr., Dr. Robert E. Rose, and Dr. Harold DeWitt Smith were re-elected as vice-presidents; with Edward T. Pickard again named as treasurer. Seven new directors, to bring the total to 30, were added to the board.

Dr. C. E. K. Mees, vice-president and director of research, Eastman Kodak Co., Rochester, N. Y., and K. J. A. Helder, director of export for W. O. Peake, London clothing manufacturer, were luncheon speakers.

An afternoon session on textile research war problems was led by Dr. Milton Harris. Participating in the discussion, which was "off the record," were William D. Appel, chief of textile section, National Bureau of Standards; Lieut.-Col. Bestor Robinson, research and development branch, Office of Quartermaster General, Washington; and Major Frank M. Steadman, Office of the Quartermaster General, Philadelphia Depot. Fabric and finishing problems were discussed, covering requirements of the armed forces.

N. C. Mill Men Hear Murchison; Elect E. A. Smyth, III, President

E. A. SMYTH, III, president of Balfour (N. C.) Mills, was elected president of the Cotton Manufacturers Association of North Carolina, at a "streamlined" one-day convention of the association at Charlotte, N. C., on Thursday, November 12. The new head of the organization is the grandson and namesake of the illustrious Captain Smyth who was one of the real pioneers of the industry in the South, whose death came only a few months ago as he neared his 94th birthday.

The association, which usually holds its conventions at Pinehurst, decided on an abbreviated program this year in view of the war conditions with its problems of transportation, etc., and a good representation of the membership attended the "streamlined" meeting.

Other officers elected were: First vice-president, R. A. Spaugh, Jr., vice-president, Washington Mills, Winston-Salem; and second vice-president, J. A. Moore, president, Edenton (N. C.) Cotton Mills. Hunter Marshall, Jr., of Charlotte, was re-elected secretary-treasurer.

There was one session in the morning, which was featured by the address of the retiring president, William H. Ruffin, vice-president and treasurer of The Erwin Cotton Mills Company, Durham, N. C., and brief reports of committees; and a luncheon session, featured by a striking extemporaneous address by Claudius Murchison, president of The Cotton-Textile Institute.

Some informal snapshots of groups at Charlotte. Top row, left, **J. Craig Smith**, vice-president and treasurer, Avondale Mills, Sylacauga, Ala., who is president of the Alabama Cotton Manufacturers Association; **W. M. McLaurine**, secretary-treasurer, American Cotton Manufacturers Association, Charlotte, N. C.; and **Herman Cone**, president, Proximity Mfg. Company, Greensboro, N. C., who is also president of A. C. M. A. Top right, **Louis L. Jones**, president, Canton (Ga.) Cotton Mills, is shown with **Agnew H. Bahnson**, president, Arista Mills Co., Winston-Salem, N. C., who was snapped while adjusting his eye-glasses.

Bottom row, **W. H. Suttenfield**, vice-president, American Yarn and Processing Co., Mt. Holly, N. C.; **Arthur M. Dixon**, president, Dixon Mills, Gastonia, N. C.; and another snapshot of Mr. Bahnson. Bottom right, **Hearne Swink**, vice-president, and **Charles A. Cannon**, president, Cannon Mills Co., Kannapolis, N. C.

Mr. Ruffin, in a brief, clear-cut review of the manifold problems besetting the mill management today, reflected a broad-minded approach to those induced by war conditions, but urged strong resistance toward influences tending to disrupt effective management.

Dr. Murchison, in his luncheon address, dealt particularly and forcefully with the threats to the safety and welfare of the industry, in its all-out efforts in the war program, coming from indicated plans of certain government agencies for measures that would wreak havoc if put into execution; he spoke forcefully also against the implications of tendencies among different government departments to work independently of each other in spheres and on matters that in themselves seem harmless—but when viewed as to their potential intent and influence are likely to alter completely the established system of American business procedure.

He referred particularly to the announced plans of OPA to require detailed cost records and figures, from each of the more than 1,000 mills in the industry, to implement their work in the adjustment of ceiling prices on textiles. He showed the amount of unnecessary work in compiling such detailed statistics, and, assuming they are compiled, the utter futility of endeavoring to establish equitable ceilings on the basis of any averages derived therefrom. He showed how costs are a factor that varies decidedly from one mill to another, from one product to another, and how they are vitally affected by countless other influences and declared that even with detailed reports from every mill in hand—OPA would be right back where they started, and for any reasonable, fair and equitable basis, would still have to resort to the only logical basis of pricing—the historical record of prices in the industry itself.

Marion W. Heiss and T. A. Wilson presented a detailed report on the annual safety contest conducted under the auspices of the state industrial commission, and certificates were awarded by Mr. Wilson to those mills in the contest operating with the smallest number of manhours lost due to accidents. The contest is conducted each year, and since its inception the record shows a striking decrease in the number of lost-time accidents.

Karl Bishopric, president of Spray (N. C.) Cotton Mills; Britt Armfield, of Burlington Mills; H. K. Hallett, of Kendall Mills; Marion W. Heiss, of Revolution Cotton Mills; J. A. Cooper, Hariett Cotton Mills; Edwin Morgan, Morgan Mills; and C. C. Dawson, Cramerton Mills, were named to the board of directors of the association.

Snapshots at Charlotte by Robert W. Philip

The new and retiring presidents of the N. C. association. Left, **E. A. Smyth, III**, president, Balfour (N. C.) Mills, who succeeded **W. H. Ruffin**, vice-president and treasurer, The Erwin Cotton Mills Co., Durham, N. C., seated at right . . . . . .

The vice-presidents of the N. C. association at the Charlotte luncheon. Left, **R. A. Spaugh, Jr.**, vice-president, Washington Mills; and **J. A. Moore**, president, Edenton (N. C.) Cotton Mills . . . . . .

1942 Rayon Production

United States production of rayon in 1942 will probably approximate 625,000,000 pounds, setting a new production record, it is stated by William C. Appleton, president, American Viscose Corporation. This volume compares with an output of 573,000,000 pounds in 1941 and 471,000,000 pounds in 1940. The increase in production this year has been moderate, since the industry has not been able to obtain new equipment and machinery.

Of the total output, about 470,000,000 pounds will consist of continuous filament rayon yarn. This compares with 451,000,000 pounds in 1941 and 390,000,000 pounds in 1940. The balance of the production, approximately 155,000,000 pounds, will be rayon staple fiber, comparing with a production of 122,000,000 in 1941 and 81,000,000 in 1940. The rapid increase in the output of rayon staple fiber in recent years has been due to the continual development of new uses for this product in fabrics for men's and women's wear and in such other articles as rugs and carpets, blankets, tablecloths and home furnishings.

A substantial portion of the American industry's current production of continuous filament rayon yarn is being used in the manufacture of military equipment or is allocated by Government order to the hosiery industry and for export to Latin American countries under the Good Neighbor Policy.

The principal military equipment containing rayon includes fragmentation bomb chutes, aerial cargo delivery chutes, flare chutes, parachute shroud cords and tapes, self-sealing gasoline tanks and feed lines, aerial tow targets, water-repellent cloths to protect airplane motors, electric wire insulation in submarines, other naval vessels, tanks and planes, officer's uniform linings and Army insignia.

Whitin Receives Maritime "M" Awards for War Production

THE FULL story of how American industry converted its facilities from peace-time production to forging the implements of war can never be told in all of its detail of patriotic leadership by management and all-out co-operation of its workers. Hardly an industry in this nation, large or small, has failed to respond to the Herculean tasks imposed upon it for changing, with the unbelievable speed necessary, to the all-important task at hand.

Textile weaving, knitting and spinning mills, and finishing plants, have met the challenge to an extent that has drawn merited applause from the government, and the general public in supplying, in the needed quantities, of the necessary qualities, and at the required time, the products of their machines needed to clothe, house, and help equip the armed forces of the nation.

But less conspicuous and less known, certainly less dramatic than other industries such as aviation and shipbuilding, the machine shops and others normally engaged in supplying the textile industry with its peace-time requirements of machinery, equipment and supplies, have also "converted", have turned their respective facilities to war production, in many instances to the complete exclusion of their usual production, and among these plants, concentrated most heavily in New England, but extending well throughout the areas wherever there are mills, the government has found ready a real arsenal of production for the tools of war, and a spirit of eagerness, among management and workers, to contribute their part.

On Saturday, November 7, recognition was given one of the outstanding manufacturers of textile machinery, for what it and its employees have done in turning its production onto tools of war. The United States Maritime Commission presented to the Whitin Machine Works, Whitinsville, Mass., and its employees, the coveted Maritime "M" Pennant, the Victory Fleet Flag, and Labor Merit Badges.

Established in 1831, Whitin Machine Works has grown steadily, with the textile industry of this nation, and before World War II was one of the few plants in the country capable of furnishing preparatory machinery for handling cotton, wool, worsteds, asbestos, rayon, nylon and other synthetic fibers, as well as cut staple. It has 64 departments in the plant, containing approximately 3400 machine tools; it occupies 56 acres of floor space, with 4,500 employees.

Today, the all-out war effort has reduced the work of building textile machinery to a negligible part of production at Whitin, and conversion of the entire plant to the war program was done with extreme rapidity. At the present time, the repair and maintenance of existing textile machinery, and the adaption of machinery to new textile requirements represents the only activity of the plant in the textile field. Machines that formerly produced textile machinery are now turning out ammunition, motors, airplane parts, tool parts, castings, and other intricate parts all necessary and important to the war effort.

The Maritime awards were made to the Whitin management and workers especially "for your outstanding accomplishment in the manufacture and delivery of vitally-needed parts and fittings required in the construction of ships urgently needed to transport equipment and supplies to our forces and friends overseas", in the words of Charles E. Walsh, Jr., chief of the procurement division of the Maritime Commission, who made the presentations. Mr. Walsh also said:

"Several months ago we were having trouble with a specific type of pipe fitting required for certain vessels under construction. The particular item involved presented a difficult manufacturing problem. It was not long thereafter that your representative came back and told us that you not only had solved our problem but had manufactured the item required and submitted samples to us for the approval of our engineering department. This product was found to be exactly what we needed, was approved, and a sufficient quantity was ordered to take care of our needs.

"You are also familiar with the fact that following your production and delivery of the pipe fittings, you were given orders for other more vital material to be supplied to our shipyards. You manufactured and delivered these orders, too, with speed and efficiency, and because of these facts, many ships under construction in various shipyards have been delivered into service ahead of schedule."

F. Eugene Banfield, Jr., vice-president of Whitin Machine Works, was in charge of the ceremonies, and made the welcome address to the more than 7,500 who attended, including the heads of many of the other leading textile machinery firms. Governor Leverett Saltonstall, of Massachusetts, brought greetings. William T. Walsh, 70, an employee at Whitin for 45 years, received, as the employees' representative, the coveted Labor Merit Badge. Standing with Mr. Walsh were eight other "old-timers" with an average service record of 45 years each. J. Hugh Bolton, first vice-president of the company, accepted the flag and pennant, and E. Kent Swift, president and treasurer, who has been with Whitin for more than 40 years, delivered an address of appreciation.

E. Kent Swift, president of Whitin Machine Works, Whitinsville, Mass., delivering the address of appreciation at the ceremonies awarding the Maritime "M" to the management and employees of the company

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1891-1942 — ATLANTA

CURRENT TEXTILE TOPICS

Mills pay heed to long future

ECONOMIC as well as political interests have been for some time weighing the long-term prospects, with the transition to eventual peace conditions in mind. The Administration has gone along with preparations against the possibility of war beyond the year 1943, yet at the same time has found time to consider the problems of adjustment to come when hostilities cease at some unknown date.

While the Allied Nations were chiefly on the defensive, cotton manufacturers and other producers of the United States were mostly concerned with meeting the war demands. The change to an offensive movement, with the November developments in Northwest Africa pointing a definite shift in trends, did not create expectations of an early conquest for the Allied Nations, but it did quicken thoughts of the business adjustment that must be made.

Among mill men, in the midst of a program of heavy procurement buying by the military agencies, there was evident even a feeling that contracts for civilian goods from financially sound buyers for the second quarter of 1943 would not be amiss. Even though manufacturers did not expect an end to the war by that time, they could see the possibility of diminishing military demands, especially after the tremendous production now in process.

Industry gains hope from the elections

Both for the duration and thereafter, incidentally, the November elections appeared to give the mill industry a strong hope of better relations with government. The results of the national voting were accepted by many in the trade as a mandate for relief from dominating influence by the government in economic affairs.

It has been felt that the textile industry, while giving its utmost for advancing the national war interests, has not had full co-operation from the Administration. Notwithstanding that the mills have succeeded in extraordinary fashion in meeting the double demands of the National Defense period and the year of war, they have worked under obstacles incident to control that manufacturers feel were avoidable.

It may be pointed out, in this connection, that a sound mill industry after the war is essential to the national well being and that this is hardly possible without government consideration. As noted by William H. Ruffin, president of the North Carolina Cotton Manufacturers Association, war production comes first, but the industry must be allowed to make fair profits if it is to maintain a sound status.

Perhaps trite, yet pertinent, is the economic adage that "the power to tax is the power to destroy." Mr. Ruffin's comments on OPA insistence that ceilings be based upon profits before taxation and his remarks on the Treasury Department's indicated stand against deduction for extra depreciation due to third shifts brought to the front issues of vital consequence to the future of the mills.

Immediate operating conditions healthy

Orders were piling up for the mills in the first part of November and a healthy condition as to unfilled orders and stocks obtained. Some important divisions of the industry were reported to be showing considerable improvement. Manufacturers had contracts equivalent to 60 to 90 days' production at the current high rate of output. In fact some were booked considerably further ahead.

Expanding government purchases and diminishing production for civilian needs were indicative of a firm mill outlook for many months ahead. A tight position existed in important items wanted for military purposes. Mills in apprehension of inability to meet the heavy government requirements were offering only the most meager supplies for civilian uses. Yet the demand from dry goods wholesalers was improving, a reflection of increased consumer demand in retail stores.

In this favorable situation for mills, from the production angle, the manpower problem was a serious and growing problem. The mill industry alone cannot solve this problem, with no power to check the shift of workers from the textile plants to other war industries. Efforts are being made to substitute women where possible, but the general expansion of employment under war conditions leaves many potential workers in an easier economic position and less readily induced to take jobs.

Not only that, but many workers already employed are satisfied with the wages that they get from normal peacetime hours of labor and little interested in longer hours, even at over-time pay. The anti-inflation program of the government, sound in its basis, is nevertheless a deterrent to ambition for more work and more money. The sum and substance of the labor situation seems to be that little short of government suasion or direct control will solve the issue.

New England Mill Situation

EARLY in the past month some fine cotton goods mills in New England were so preoccupied with government work that they were merely filling out old contracts for civilian consumers. Looking ahead, moreover, it was evident that they were expecting to have steadily less volume for regular accounts. Certain manufacturers were holding looms to specialties and hoping to maintain production thereof.

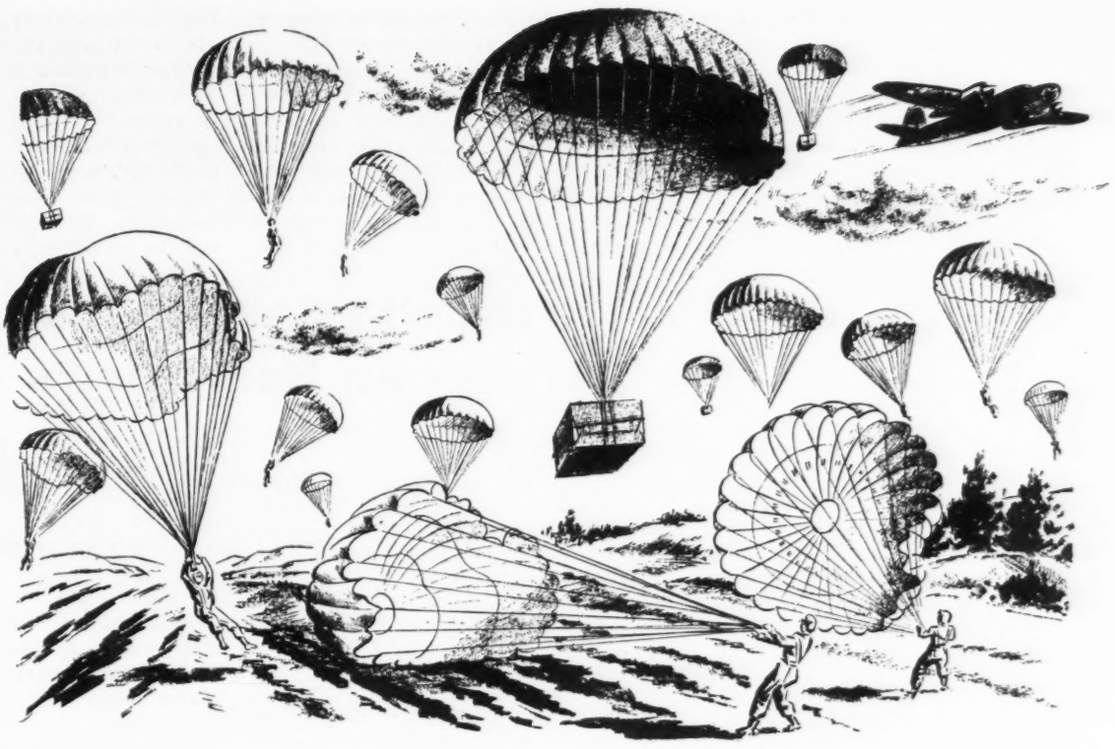
While large military contracts were being awaited, it was later demonstrated that opportunities to cover on gray cloths for regular uses were smaller. Some buyers held the opinion that combed goods mills were not so fully occupied on government work as restricted offerings implied. Finishing activities implied larger quantities available, it was felt, and such buyers suggested that distribution among converters was not equitable.

Nevertheless, the latter part of November found the mills concentrating intensively on military lines and market reports indicated negligible trading in goods for other purposes. The expected business from the government had not been fully placed, but manufacturers were figuring on production demands. Other business, it it were to be done, had to wait until this business was settled and facilities available could be gauged.

Production scale below 1941 rate

Problems of production, as indicated in the past, have been affecting the mill activity as forecast for the late months of the year. The consumption of cotton in New England was slightly higher in October than in September. The consumption last year, however, showed a big jump in October.

This district showed a consumption of 107,694 bales in October, compared



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Cotton serves the Paratroopers as they capture and hold strategic airports and bases.

It is Cotton that supplies the heavy tapes and parachute belts that safeguard air-borne Infantry. Colored chutes of mercerized cotton bring guns, ammunition and supplies.

Army purchases of parachute fabrics totalled 50 million yards in a single month . . . And the production job is getting bigger every day.

The terrific strain on mechanical equipment calls for careful maintenance to prevent slow downs. Mill engineers and superintendents are guarding against this danger by keeping their equipment at the highest point of efficiency.

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PRODUCING GUN MOUNTS FOR THE UNITED STATES ARMY

with 103,186 in September and 119,387 in October of 1941. For the first three months of the current season, the cotton consumption of New England is reported by the Census Bureau as only 307,913 bales, moreover, against 321,375 for the same time last year. Yet the national consumption continued to expand, with the quarter showing 2,863,728 bales, compared with 2,705,663 in 1941.

All the states of the northeastern area had losses in October, relative to a year previous. With so many of the mills on fine goods production and the government finding need for tremendous proportion of the output at the high scale that obtained, a diminution of output obviously increases the strain and decreases the available supply for civilian uses.

Varying conditions of mill production

Recent figures on the activity in the cotton industry of New England show that Connecticut, where many war industrial units are operating, operated its cotton mills an average of only 283 hours per spindle in place in September, against 305 hours a year previous. In Maine, where the shipbuilding plants have been a lure to workers, the average was high for New England at 360 hours in September, but compared with 386 last year.

New Hampshire had the best showing for this region and made an improvement for 1942 over last year, at 446 against 416 hours. Massachusetts had an average of 340, against 312, and the respective figures for Rhode Island were 337 and 333 hours. These gains for the last two states leave them still under the average for New England, however, because of the restrictive legislation existing.

Even in the states with the best showing in September, a less favorable situation is indicated for October on the basis of cotton consumption. New Hampshire showed consumption of 13,100 bales in October, against 13,589 a year before. The figures for Maine were 16,300 and 19,899; Massachusetts, 59,429 and 63,646; Rhode Island, 11,264 and 13,307; Connecticut, 7,275 and 8,444 bales.

Still a big change from pre-war days

These conditions, of course, do not obviate the fact that the cotton industry has moved upward tremendously here during the war. The figures on payrolls and employment for September of 1942 are slightly less than those a year before in Massachusetts, but tremendously above those of 1940, which itself was a good year. The number of wage earners has risen from 24,802 to 40,280. Payrolls have leaped from $435,701 to $914,149 weekly.

During the past year, moreover, the mills have been able to make a better financial showing. A case in point is the report of that leading unit, the Berkshire Fine Spinning Associates, which had sales in the fiscal year ended September 30, 1942, to a value of $37,771,888. These compared with $28,746,992 the previous year and $18,163,074 in the 1940 period.

After deducting $5,936,800 for taxes on income and $525,000 for contingency reserve and post-war adjustments, the Berkshire had a net profit of $1,907,441, equal to $3.38 per share of common stock after requirements on preferred. This compared with $3.10 net the preceding year.

"THE SITUATION" as Seen Across an Executive's Desk

The Election

November 20, 1942

THE ELECTION results indicated that this nation wants politics and ultra reforms pushed into the background at once so that all of its vital resources can be put into the job of winning the war.

They indicated that the people are tired of partisan politics and national policies that favor special groups. The people in the hinterland, along with our military forces, are tired of the escapades and selfishness of labor. Many feel that labor should not take this critical time to try out its unreasonable and unpatriotic schemes.

The farmers, particularly of the Mid-West, as well as in other areas, feel that as raw producers of essential materials, they have been discriminated against. With war workers receiving unusual wages and with industrial wages rising everywhere, the farmer is having a serious time trying to secure and retain farm labor. His farm costs have increased enormously.

Washington still has too many theorists and paper planners. There seem to be weakness and jealousies in many departments. The war preparations have been confused at times and have, therefore, lagged. The election results were a warning that such conditions must be cured.

Hours, wages, manpower, civilian and military needs must be handled above the table and in a sensible way, such as will meet the demands of the times. If those in authority do not heed the admonition there will be a more complete warning in two years.

Manpower

Although manpower control may be delayed in its legislative policy there are several things that mill men should consider seriously now.

The Government has announced that it will increase its army ultimately to nearly 10 millions of people and war industries must be manned accordingly.

Every industrial manager should carefully survey his present manpower as to ages and draft classifications. He should make a note of the possible loss of these men and in which departments they are at present. He should carefully survey his key men and those for whom there is possible deferment.

He should carefully survey his village or community for possible or available trained workers. He should also survey those who are capable of being trained.

He should see to it that learner opportunities of some kind are available and encourage the untrained workers to prepare for jobs. In doing all of this he should carefully study his manpower and decide in what places he can operate with women where they are not now used.

Each industry should be busy trying to solve this problem and should never try to secure workers from another plant either directly or indirectly.

Crop Report

Based on yield indications of 274.9 pounds per acre, the Crop Reporting Board of the Department of Agriculture forecast a United States cotton crop of 13,329,000 bales of 500-pound gross weight in the 1942-43 season. The estimate represented a decrease of 489,000 bales from the previous estimate of 13,818,000 as of October 1.

The Government reported ginnings to November 1 at 9,726,443 bales, which compares with 7,961,157 to the same date in 1941, and 9,085,870 in 1940.

The New York Cotton Exchange Service has been advised that rumors of a substantial cut in the total cotton acreage allotment for 1943 were based on a misinterpreted statement which, as originally made, was that the cotton acreage goal, not the allotment, for 1943, would be set at a figure substantially below the 1942 allotment level. It is anticipated that, some time in the near future, Secretary of Agriculture Wickard will announce 1943 acreage goals for cotton and other commodities. Such data will represent the relative importance

WHY RAYON MAKES TOUGH TIRES

HEAT, the enemy of all pneumatic tires, becomes a hazard when cars go into battle. All speed limits are off, and as increased speed means increased heat, chances for blowouts are multiplied.

Add to speed the sizzling sands of a desert, the gouging and rending of boulders, the shock of impact as wheels jolt into and out of depressions, and you can understand why it takes an extraordinary kind of tire cord to withstand such torture.

Long before this country went to war, tire manufacturers started looking for a material that could really take punishment. Working in close harmony with the scientists of the tire manufacturers, together we initiated a research program to develop a cord which could withstand heat and shock.

After experimenting with many kinds of materials, we at American Viscose contributed materially to the development of a special type of *rayon* fiber. This fiber has high resistance to heat. It has toughness—high tensile strength and enough "give" to distribute the load through the tire carcass.

Because this type of rayon has toughness, it is able to take great shocks. The faster you apply the load, the greater resistance it has. This translates itself into safe landings for bombers and huge transport planes, and blowout-resistance for the tires of combat cars and trucks.

Right now, tires with rayon cord for civilian use are hard to obtain. They've gone to war. But after this war is over you can depend upon rayon to give you longer life, greater mileage, and more protection in the tires for your car.

The development of a special rayon fiber for tire manufacture is only one of the research achievements of American Viscose Corporation. We are constantly at work, evolving new fibers which will solve problems for people and industry.

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Because rayon builds up less heat than ordinary materials, it is possible to coat tire treads with a heavier layer of rubber, while using less rubber on the tire wall. Since the tread of a tire is less than one-third of the dimension of the entire tire, this actually results in a saving of rubber while creating a stronger, lighter-weight, longer-lasting tire.

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*T. M. Reg. U. S. Pat. Off.

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attached to the various commodities from the current war-time standpoint. It will be recalled that the 1942 cotton acreage goal was first set at 22,000,000 to 24,000,000 acres, and later revised to 25,000,000. However, the total acreage allotment held about the same as for the previous year at approximately 27,400,000 acres. Regardless of what cotton acreage goal is set for 1943, the total allotted acreage, it is understood will be approximately the same as that for 1942 and 1941, i.e., 27,400,000 acres. While cotton growers can plant up to their allotments, if they so desire, there will probably be offered to them certain inducements which may tend to keep the acreage planted to the staple more in line with the Secretary's goal.

Labor Relations

B. M. Selekman, associate professor, Harvard Business School, in an address to the National Association of Cotton Manufacturers on the subject of "Human Relations", in discussing research in this field, said:

"Already there are today over 60 research departments in our American unions, 60 research departments staffed with very able men. Most of them have doctors' degrees from leading universities. They carry on continuous research. There is an article on the kind of thing they do by Solomon Barkin, whom many of you know, in the "Personnel Journal" for February 1941, telling this story by indicating its development in the Textile Workers' Union of America. It is an impressive story, which no employer should neglect to study. It portrays the careful, exhaustive research the union applies in preparing for, establishing, administering and integrating every function of union operation.

"The union's files are constantly up-to-date, always ready to yield facts on the six central facets of relationships; individual companies; general shop conditions; wages; work-load; labor cost; and general industrial conditions—the economics of textiles; management organization; mill communities; and collective bargaining experience. These data in turn are carefully systematized for use in at least 12 union activities—organizing; negotiating; special problems; administration of agreements; relations with consulting engineers; arbitration proceedings; union strategy; national programs; legislative action; contacts with Government agencies; and public relations.

"Can management afford to be less well prepared?"

The Chamber of Commerce of the United States has issued the first progress report for its consumer industrial survey of post-war needs. Based upon interviews with a large number of families throughout the nation, this study reflects the intentions and plans of all consumers as family units.

Post-War Installment Buying

Significant to credit planning, it was found that 23 per cent of those interviewed named specific purchases they are confident they will make within six months after the war is over. Translated nationally, this means intending buying of 2,100,000 automobiles, 1,500,000 mechanical refrigerators, 1,200,000 washing machines, 1,200,000 stoves, 900,000 vacuum cleaners, 1,200,000 radios, 600,000 sewing machines, 900,000 electric irons, 300,000 electric kitchen mixers, 1,200,000 sets of living room furniture, 600,000 sets of dining room furniture, 1,200,000 sets of bedroom furniture, 1,200,000 rugs and carpets, 1,200,000 linoleum rugs, and 100,000 new houses.

One-third of the present home owners say they will certainly make repairs and improvements in their homes within six months after the war. These families expect to spend from $100 to more than $2,000 each to do these jobs.

Of the families interviewed, 59 per cent are putting some money into war bonds and stamps, 50 per cent are investing in life insurance, 16 per cent in savings accounts, 16 per cent are paying off mortgages and 10 per cent are making other savings or investments. Only 19 per cent of the families are saving for a specific post-war purchase.

Fifty-eight per cent have used time payment plans. Twenty-eight per cent are still making time payments running from $5 per month to more than $40 per month. These payments have from two to 12 months to run.

Despite evidence that many people intend to make extensive major purchases after the war, most people are not—on the basis of present saving—counting on buying these things for cash. The public will continue to buy war bonds and will hold on to them after the war as a reserve. The American habit of installment buying will continue to be a major factor in large consumer purchases.

Research

The Cotton-Textile Institute, at its recent annual meeting, very appropriately emphasized research and promotion. These two subjects have been much discussed and until recently very little has been done.

The Cotton-Textile Institute and the National Cotton Council have a unified program dealing with the enactment and execution of these two vital programs.

It is necessary to carry on promotion now because many people are now using cottons from necessity and not from choice. We need to impress these users and others with the values of cotton products so that they will become permanent users after other materials again become available.

The lack of proper research was shown conclusively when the WPB approved the quadrupling of high tenacity tire cord because of the inability of the cotton cord manufacturers to prove their case. The world will become constantly more competitive and research is one of the chief safeguards in industrial preservation.

In a previous paragraph reference was made by Dr. Selekman to the research that has been made and is being made by labor in its program of unionization. The textile industry is woefully lacking in having before it, or easily accessible its true and factual picture. With labor demands constantly being made, with OPA constantly calling our products into question, with taxes, social security and so many other agencies pouring in upon the industry, some agency must be ready with facts or the ability to secure the facts needed.

Wage and Salary Regulations

The wage and salary regulations sent out under Executive Order 9250, are very voluminous and in some instances difficult to interpret.

There seem to be two very specific statements that can be made: (1) Salaries and wages of employees whose annual income is $5,000 and under "except for those employees employed in a bona fide executive, administrative or professional capacity who are not represented by duly recognized or certified unions" shall be under the supervision of the 10 regional offices of the National War Labor Board which will be located in the 10 regional offices of the Office for Emergency Management. The offices of the wage-and-hour division in the region will act as the agent of the National War Labor Board for the purposes of this Act. Salaries above $5,000 will be under the wage stabilization board of the U. S. Treasury.

Those people or organizations who desire to make salary or wage changes should make application to either of the two agencies as the above division indicates.

Those in charge of these offices can be of great assistance in furnishing forms and in directing procedure for the changes desired.

It is exceedingly important that all records of changes desired or effected shall be registered in the proper of-

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WARP SIZING—

NALEX—for fine cotton yarns.
LANAMYL—for worsted yarns.
FIBERJEL V—for filament viscose yarns.
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FIBERTEX—for sheer, crisp finishes.
NAPO GUM—for full, weighty finishes.
SPUNJEL—for spun rayon finishes.

PRINTING

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VAT GUM #11—for rayon printing.
AMBER GUM (Prepared)—for rayons and cottons.

All made from Domestic Raw Materials and available in Large Quantities.

NATIONAL STARCH PRODUCTS Inc.

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fice of the government. The penalties are great but aside from this, it is the desire of all concerned to co-operate with the regulations as completely as possible. There are offices rather convenient for all industries. Procedure must be followed if approval is desired.

Army and Navy Awards

There are two co-operative awards being given out by the agencies of the Government.

The Army and Navy "E" award is given to those industries and the people who work therein that have showed exceptional performance on the production front.

The second is the "M" award for liberality and patriotic devotion to the purchase of war bonds and war savings stamps. The purpose here is to have all of the workers pledge to purchase bonds and stamps in an amount equal to 10 per cent of their earnings and to have the mill certify that an amount equal to 10 per cent of each payroll is invested in those bonds or stamps.

It is quite stimulating and comforting to note the growing lists of textile mills that are being given these awards. These awards are an official indication to the public that the textile mills are doing their part in making the contributions necessary for winning the war.

Materials and money are the two great contributions that men and women in civilian life or the production front must furnish. It is useless to say that not only in these two capacities have the mills done well but they have furnished their quota of fighting men.

The War Has Only Begun

With so many reverses that have come to depress the people, the long and restless wait for some favorable news to come over, some may think that the recent successes portend a hasty ending of the war.

"These events are only the end of the beginning". These are only positional movements from which the Allies now hope to begin to carry the war to a successful conclusion.

There is much work still to be done in Africa before a trip of much consequence across the Mediterranean Sea can be made. There are still powerful forces in Germany and powerful positions to be overthrown. Japan has far more resources now than she had at the beginning of the war. Her military and naval arms may have been depleted somewhat but the Japanese are resourceful and their newly-acquired controls can give them much that they once needed.

No one must stop his efforts. The end is still far away. Every resource available for winning this war must be used. Every person in this nation must give until it hurts and then give some more. We have not yet felt the sacrifices that we will have to make.

What the Textile Mills Are Doing

The Red Bank mill of Martel Mills, Lexington, S. C., has been purchased by Convenience, Inc., of Greenville, S. C., manufacturers of surgical dressings. This firm also owns Victory Textiles, Greer, S. C. The Red Bank plant contains about 15,000 spindles and 400 looms, and is being converted to the manufacture of gauze fabric. C. C. Rush continues as superintendent and C. L. Steele as office manager. R. C. McCall is president and treasurer of Convenience, Inc.; W. W. Pate is vice-president; Merrill Patton is secretary; C. A. Sault is purchasing agent; and W. F. Hawkins is general superintendent.

Beaunit Mills, Inc., 450 Seventh Ave., New York City, manufacturers of rayon and cotton cloth for undergarments, etc., with plants at Cohoes, N. Y., and Beverly, N. J., have acquired the Phoenix Mills, Inc., Statesville, N. C., manufacturers of knitted fabrics, sweaters, etc., and will continue production there as heretofore, primarily cotton and woolen underwear for the Army and Navy. Sweater manufacture has been discontinued.

A newly-formed company, The Concord Mills Corp., with Abraham Rosen, of New York, as treasurer, has purchased the weaving division of the Stephen Spinning Co., Manchester, N. H. Joseph Robillard, of Lowell, is superintendent. About 60 people will be employed as soon as the new machinery is installed. The mill occupies a two-story building with about 18,000 square feet of floor space.

N. C. English and J. C. Lloyd, officials of Ragan Knitting Co., Inc., Thomasville, N. C., have leased the plant of Tip Top Hosiery Mills, Asheboro, N. C., specializing in the manufacture of men's half-hose. Operations will be continued as heretofore, with Joseph Johnson, formerly of Thomasville, as resident manager.

The Defense Plant Corporation has acquired the Darlington Fabrics Co. plant near Charlotte, N. C., and the building, in disuse for some years, will be used to make products for military uses, and will be operated by the National Carbon Company.

Union Cotton Mills, Maiden, N. C., a unit of American Yarn & Processing Company, Mount Holly, N. C., has completed construction of two one-story mill additions, and is installing equipment, including several Saco-Lowell twisters and cards.

Monroe Full-Fashioned Hosiery Mills, Raleigh, N. C., closed last year, has been purchased by Sam Schwartz and the Textile Machinery Co., of Charlotte, N. C., and is being converted to the manufacture of war materials.

Luray Textile Corp., Luray, Va., has begun construction of a new one-story addition, 50x150 feet, to be used as a warehouse. Space in the existing plant now used for storage will be utilized for expansion in production.

Pond Lily Co., New Haven, Conn., operating a dyeing, printing and finishing mill, has let contract for extensions and improvements in a section of the mill.

Fulton Bag & Cotton Mills, Atlanta, Ga., have awarded general contract for the construction of a one-story addition, to be used to increase warehousing facilities.

Rudisill Spinning Mills, Lincolnton, N. C., have acquired the former mill building of Biltmore Hosiery Co., Inc., Naples, N. C., and will improve and equip at once as a branch yarn mill.

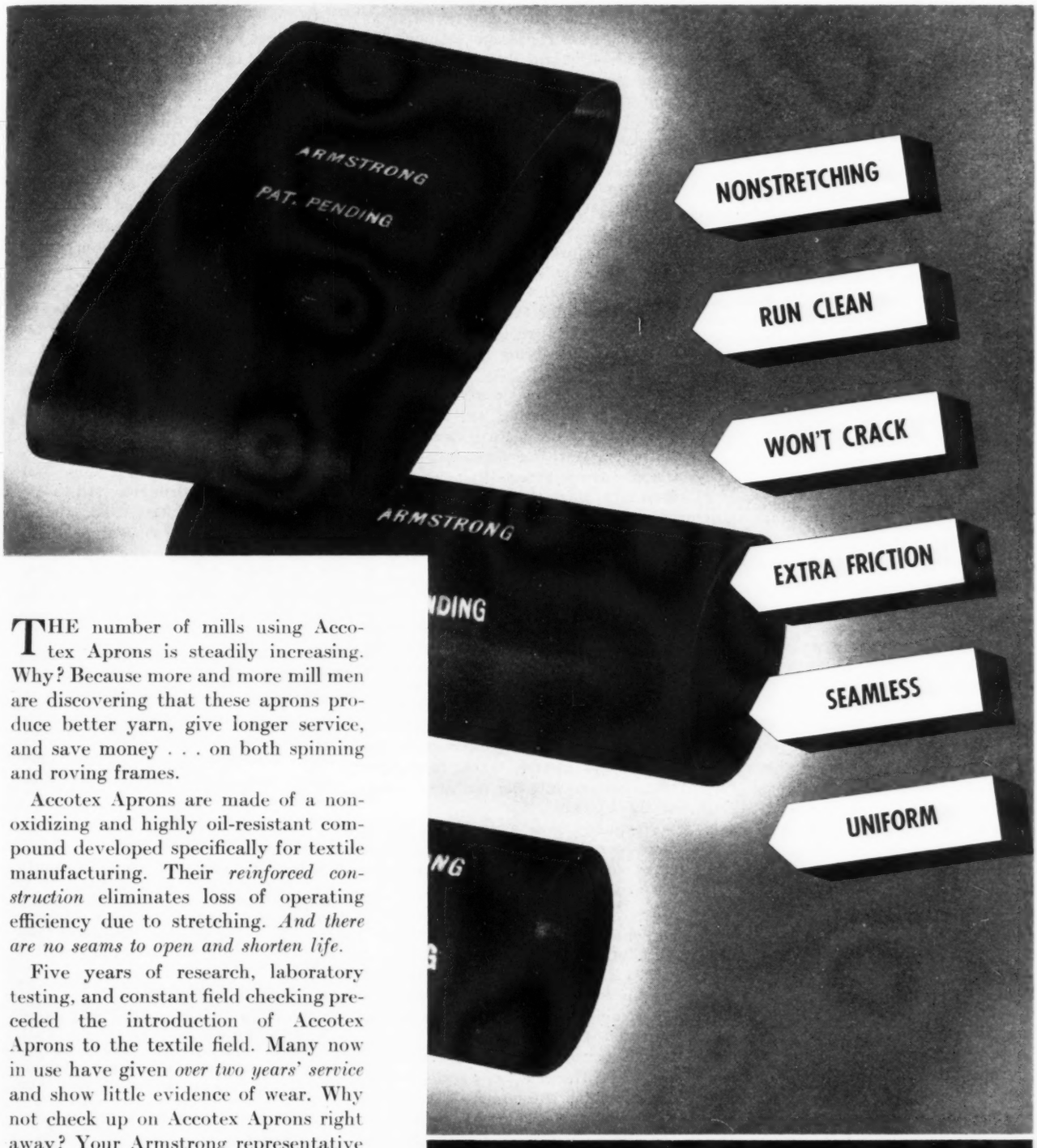
James Lees & Sons Company, Bridgeport, Pa., have purchased the mill and warehouse of the Susquehanna Woolen Co., New Cumberland, Pa.

◆

Technical Bulletin Issued on Methods of Processing Aralac

"The Processing of Aralac and Other Protein Base Fibers" is the title of a new publication by Henry E. Millson, technical service department, Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. This technical bulletin treats extensively on dyehouse procedure, as well as printing and finishing operations. Dye actions and developments are extensively discussed, and where considered helpful, microphotographic plates illustrate many of the points under consideration. The dyeing of Aralac has been given particular study and recommendations as to formulations for both Aralac and blends of other fibers with Aralac, are given.

WHY MILLS ARE SWITCHING TO ACCOTEX LONG DRAFT APRONS



THE number of mills using Accotex Aprons is steadily increasing. Why? Because more and more mill men are discovering that these aprons produce better yarn, give longer service, and save money . . . on both spinning and roving frames.

Accotex Aprons are made of a non-oxidizing and highly oil-resistant compound developed specifically for textile manufacturing. Their *reinforced construction* eliminates loss of operating efficiency due to stretching. *And there are no seams to open and shorten life.*

Five years of research, laboratory testing, and constant field checking preceded the introduction of Accotex Aprons to the textile field. Many now in use have given *over two years' service* and show little evidence of wear. Why not check up on Accotex Aprons right away? Your Armstrong representative will be glad to give you complete facts.

Armstrong Cork Co., Industrial Div., Textile Products Section, 923 Arch St., Lancaster, Pa.

ARMSTRONG'S ACCOTEX APRONS

CORK COTS · ACCOTEX COTS

"Fabrics of the Future"

Today the textile chemist and manufacturer are devoting most of their thought and energy to meeting the tremendous demand for uniforms, parachutes, special protective clothing and other military and industrial fabrics. But the war program's stimulation of the textile industry has resulted in the creation or speeding up of numerous inventions and developments which will be available when victory is achieved.

Among these new possibilities are the following, taken from a recent statement of E. I. du Pont de Nemours & Company:

Many of the new things in housefurnishings have been carefully planned and executed by chemists and engineers. Nylon, rayon, glass fibers, wool-like yarns—all will be ready after the war to make homes brighter, more comfortable and convenient.

Before the war, nylon, for example, was seen mainly in stockings and other sheer knitted articles. But the parachute program has acquainted weavers with its excellent weaving properties; the resulting increased capacity for nylon woven goods is expected to reflect itself, after the war, in many new items.

Nylon is naturally moth-proof, it washes easily and dries quickly. A pressure steaming process in the mill gives nylon cloth a permanent set. Marquisette or lace curtains of nylon would, therefore, not only launder easily but would retain their shape without being pinned to a stretcher frame.

Nylon can be closely woven and, by surface treatments, made into a cloth resembling rubberized silk. Chemical treatment makes it even more waterproof. These qualities make good shower curtains and raincoats.

Short lengths of nylon filaments are made into soft, warm, spun nylon yarn, which has many attractive uses in house furnishing goods, alone or blended with wool or spun rayon.

Inherent crush-resistance gives nylon plush, velvet, frieze and other pile fabrics particular advantage. The nylon materials are also very durable and abrasion-resistant and have a much softer feel than the natural pile fabrics, it is pointed out.

Window screens that will not rust or corrode or need cleaning are another possibility of nylon, of heavy single strands that are smooth and strong. Experimental nylon screens, fabricated before the War, have stood up at the seashore and even in the tropics. Pigments are added to the molten nylon material before it is spun and drawn out into "wires", making the color a permanent part of the screen. Absence of rust or corrosion makes for less deposit of dirt, and no metallic stains, upon the glass and sills. The nylon is so strong and resilient that bumps generally do not leave bulges. A hole made by poking a pencil through the screen is completely closed by rubbing the fingers over the displaced strands.

Present war-time shortages of many raw materials, machines and labor place man-made fibers such as nylon temporarily beyond the reach of the civilian. Their existence as well as their successful passage through the severe trial of war uses give a glimpse of a peace-time home whose beauty, comfort and utility will be greatly enhanced by the contributions of the chemist.

◆

Helping Men Entering the Service

In a booklet issued to help men and women employees wind up their civilian affairs before entering the nation's service, the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., reported that leaves of absences are being granted the following:

Male employees drafted by the Army; men enlisting in the Army, Navy, Coast Guard, Navy Construction Battalion, Maritime Commission Cadet Corps, Army Specialist Corps and Merchant Marine. The same recognition is accorded women employees enlisting in the Women's Auxiliary Volunteer Emergency Service or signing up as nurses through the American Red Cross.

In addition to information about Westinghouse jobs, the booklet provides the answers to many other questions arising in the minds of workers changing from civilian to military life. Topics discussed include installment purchases, insurance, allowances for dependents, income taxes, mortgages, rent, voting, and the post-war status of the soldier.

Westinghouse employees with one or more years of continuous service get an extra month's pay when they enter the armed services.

◆

Durene Association Elects Officers

The Durene Association of America has elected the following officers for the coming year: R. B. King of the Hampton Company, president; J. P. Holt, Aberfoyle Mfg. Co., treasurer; and G. W. Herrick, Jr., Aberfoyle Mfg. Co., assistant treasurer. A. C. Layton Newsom of Lockhart International, Inc., Promotion Counsel to the Durene Association, was appointed secretary and merchandising director of the association.

The promotion program of the association will be carried forward with special emphasis on identification of merchandise made of Durene yarn, assistance to retail stores in sales personnel training, and education of the public regarding the qualities and characteristics of Durene yarn. The use of identification stickers and labels by manufacturers and retailers has continued to increase sharply despite the decreasing amount of mercerized cotton available for civilian goods.

Offices of the Durene Association have been moved from 470 Fourth Avenue to 122 East 42nd Street, New York City.

◆

Army Appoints Advisers on Synthetic Textiles

The Army has appointed a special committee, composed of nationally known chemists, fiber and textile authorities, to serve as a clearing house between the Quartermaster Corps and the synthetic fiber industry on all technical matters relating to the utilization of man-made fibers and textiles in Army equipment procured by the Quartermaster Corps.

The committee, operating under the supervision of the Office of the Quartermaster General, Washington, includes: Professor E. R. Schwartz, Massachusetts Institute of Technology; Lewis Hird, Samuel Hird & Sons; William Klopman, Burlington Mills; Dr. Harold DeWitt Smith, A. M. Tenney Associates; Col. Max O. Walner, President, The Quartermaster Board, Lt. William H. McLean and Richard R. Walton, both of the research and development branch, Office of the Quartermaster General.

A technical sub-committee, operating under the main committee, has been named: Dr. Harold DeWitt Smith, A. M. Tenney Associates, Chairman; Dr. Ernest Benger, DuPont Company; Joseph Meierhans, J. P. Stevens Company; and C. E. Geier, Duplan Corporation.

◆

Learn Your Lesson

Although mistakes may be costly and embarrassing at the time, it is usually possible to learn something from them. There is no more effective way of having a lesson impressed than by experiencing the consequences of a mistake.

It is also possible to learn from the mistakes of others. If you will admit your errors to others, they will admit theirs to you with mutual benefit to all.

There may be some reasonable excuse for a man who makes a mistake, but there is no excuse for the man who will not learn from his mistakes.—*Management Information, Elliott Service Co., Inc.*

—◆—

Your copy of the Topical Cross-Index of articles in "Cotton" in 1942 is just inside the front cover of this issue.

How to make your SLEEVE TYPE BEARINGS *last longer*

Most bearing failures are due either to improper fit or neglect. While manufacturers engaged in producing war material can still secure replacements with a minimum of delay, it is not only good management but also a form of patriotism to make every bearing deliver its full measure of power and efficiency. Bronze sleeve type bearings contain three very essential metals . . . copper, tin and lead. Help conserve these precious metals by following these instructions:

Inspect . . .

Adopt a regular period of inspection. In machinery that operates constantly the bearings should be checked each day. All other applications at least once a week. Make certain that bearings are in perfect alignment to prevent excess wear.

Clean . . .

Foreign matter, particularly of a gritty or abrasive nature is the greatest menace to bearings. By keeping the surroundings clean, you can prevent early bearing deterioration. A few minutes spent in cleaning up all applications will pay big dividends in increased bearing life and efficiency.

Lubricate . . .

Lubrication is the life blood of every motive unit. Start now to adopt a regular plan of lubrication for every bearing. Make sure you are using the right type of lubricant, the right grade and that it is clean.

Replace . . .

If failure is inevitable, order in advance. Replace all worn bearings *before* they actually fail. Remember that bearing performance and bearing life is the true gauge of quality . . . not purchase price.

Write for a copy of our new catalogue. It lists and describes the most complete stock sleeve bearing service on the market. Every item is of the highest quality possible. Distributors in every industrial center are ready to serve you.

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GENERAL PURPOSE BEARINGS

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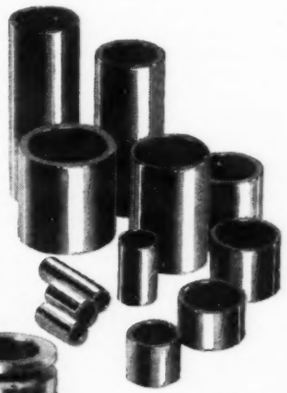

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250 individual types. Correct in design, alloy and tolerances.

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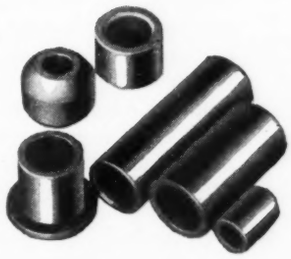
Powder metallurgy at its best. Contain up to 35% oil by volume.



JOHNSON BRONZE COMPANY

Sleeve **BEARING HEADQUARTERS**

530 SOUTH MILL STREET • NEW CASTLE, PA.

TIMELY NEWS ITEMS with a TEXTILE SLANT

W. Clark Erwin, manager of the Atlanta office of Reeves Pulley Co., Columbus, Ind., has joined the armed forces as Lieutenant (j.g.) in the U. S. Naval Air Forces. **Homer C. Garner** is now in charge of the Atlanta

Lieut. Erwin

Mr. Garner

office, with headquarters at 311 Volunteer Building. Mr. Garner, a native of Georgia, has been in the company's New York office, as sales and service engineer, for the past six years.

J. L. Townsend has been made assistant manager sales, fractional-horsepower motor section, General Electric Co.

Earl Wesselhoff has been made manager of the Boston branch of Morse Chain Co., Ithaca, N. Y., succeeding **C. L. Pratt, Jr.**, resigned. He goes to Boston from the Detroit plant, where his first association started 22 years ago.

Hollister - Moreland Company, Spartanburg, S. C., has been formed by **R. B. Moreland** and **Mrs. Ted Hollister**, as a partnership handling the lines previously represented by Mr. Moreland and the late Mr. Hollister. The concern represents as distributors the Merrow Machine Company, of Hartford, Conn., with a stock of replacement parts and rendering sales and engineering service; covering North and South Carolina, Georgia, Alabama and Tennessee. It also represents in this territory the Dinsmore Mfg. Co.; and, in North and South Carolina, the American Safety Table Co. and Maimin Cutters.

Phyllis Reay, formerly in charge of the fashion copy department of Franklin Simon & Co., has joined the copy staff of John A. Cairns & Co., New York City. Miss Reay is credited with originating the idea for Cannon towels decorator colors, while with N. W. Ayer & Son, Inc., and also the Cannon hosiery campaign.

William F. Lahl, research engineer of Crane Co., Inc., Chicago, has accepted an appointment on the "dollar-a-year" basis with WPB in Washington, as consultant in the valve and fitting section of the shipbuilding division of WPB.

The case of **A. B. Carter, Inc.**, Gastonia, N. C., manufacturers of Boyce weavers knotters, against **Knotters, Inc., L. W. Cloniger** and **W. A. Huffstickler**, came up for trial in the U. S. district court at Charlotte, N. C., and by consent of the parties, the court held the patents on the Boyce weavers knotters valid and infringed by the defendants, and an order was signed assessing damages against the defendants, and an injunction was ordered enjoining the defendants from further infringement of the patents on the Boyce weavers knotters.

The floor division and closure plants of the **Armstrong Cork Co.**, Lancaster, Pa., have been awarded the Army-Navy Production award. The company, normally a nonmetal working concern, has converted a large percentage of its capacity to war goods, including shells, large structural plane parts, bomb racks, camouflage and concealment material, incendiary bombs, armor piercing shot, cartridge cases, parts for fuses and detonators, fireproof army duck, flare bases, and parts for tanks, guns, recoil mounts, and gear cases.

A Review of the Cotton Waste Market

Boston, November 16, 1942

COTTON WASTE dealers are doing a very moderate business at generally firm prices but nothing of material import has developed since our last report. In sales here, strips are in the lead, the peeler strip strongly priced and affecting sympathetically the asking prices on upland and vacuum materials. An occasional sale of comber occurs and white picker is in fair-to-regular call at satisfactory rates to the sellers. There is no woolen mill demand of importance while at the machine end the low prices made on wiping wastes exert a bearish influence on white and colored threads.

The basic feature of the market is still to be found in excessive supplies and greatly diminished absorption and until this adverse condition is corrected, anything like an old-time market cannot be expected. Dealers are operating under a basic disadvantage altogether absent from the wool waste industry where there is a ready market for all the wastes and by-products of the worsted industry. Opinion is current, however, that the general selling level is now on a firm basis and that nothing but minor price changes, depending upon the quality of the offerings, may be expected for some indefinite period ahead.

Concentration of civilian industry proceeding throughout the country adds uncertainty to waste merchandising. In what ways it will further hamper the buying and selling of cotton wastes and by-products is for the future to disclose. Meanwhile some softness has developed in peeler comber and a break below 11.00 cents would not be unexpected. Single threads quoted around 5.00 cents are being bought for purposes other than for machining into wiping wastes with the processed threads being delivered as low as 5.75 cents.

New England mills are operating on a high rate of activity but their output of wastes is not being absorbed fully in this section. Demand for comber in particular is very spotty. Some dealers are quoting 11.25 cents for the best material but good stock can be bought as low as 11.00 cents delivered. Unless the Government should enter the market for good sized quantities, current prices can hardly be maintained. Affected sympathetically by the uncertain position of peeler, most houses here have found it advisable to lower asking prices on Pima and Sak combers. Peeler spinner, lacking in sales, is also priced easier. Consumer business in these spinning materials remains spotty with consumers buying hand-to-mouth and claiming that there is no reason why they should purchase ahead of their requirements with the market practically pegged on an attractive price level for some indefinite period ahead.

The cotton spinning industry as a whole is confronted by much uncertainty regarding its production and the type of yarns which will have to be produced to meet Government requirements without shutting out unnecessarily what is expected to be a large recourse by the public to cotton goods next year. And then there is a likelihood that rayon yarns may displace certain cotton yarns in tire fabrics. Meanwhile waste traders face a general prospect which, under conditions conceivable at the moment, seems quite unlikely to provide a volume demand commensurate with waste stocks and their continued production.

Third Quarter Rayon Production at New High

Production of rayon by American mills—yarn plus staple fiber—aggregated 159,400,000 pounds for the quarter ending with September, a new high record, states the *"Rayon Organon"*, published by the Textile Economics Bureau, Inc. Rayon production (yarn plus staple fiber available for consumption) totaled 470,500,000 pounds for the first nine months of 1942, a gain of 9½ per cent over the comparable period in 1941.

Rayon filament yarn production also set a new record, amounting to 119,600,000 pounds during the third quarter; rayon yarn production for the first nine months of 1942 totaled 354,400,000 pounds as compared with 332,400,000 pounds in the corresponding 1941 period.

Rayon staple fiber output amounted to 39,800,000 pounds for the third quarter of 1942, and for the first nine months of the year, staple fiber output amounted to 116,100,000 pounds, also a new high record.

Today

AS IN WORLD WAR I

Serving

THE AMERICAN TEXTILE INDUSTRY

STALEY'S
TEXTILE STARCHES

★ In the Textile Starch field, as in all fields, one name—one product—must stand out. For more than thirty years the Textile Industry has found the name Staley synonymous with quality and service. Today, continuous production is necessary to meet the demands for Staley's complete line of unmodified and modified starches.

A. E. STALEY MANUFACTURING COMPANY

DECATUR — Staley's CORN AND SOY BEAN PRODUCTS — **ILLINOIS**

ATLANTA, NEW YORK CITY, SPARTANBURG, CHICAGO, BOSTON

COMMENT on the COTTON MARKET

New Orleans, Nov. 17, 1942

THE COTTON MARKET had a fairly substantial advance during the early days of November due largely to a statement from Leon Henderson, head of OPA, that he does not expect to place a ceiling on raw cotton. He explained that he would depend on the ceiling of 21.47 placed on textiles in April as a means of controlling the price of raw cotton. Other influences were a rumor from Washington that the Secretary of Agriculture would reduce the acreage allotment for cotton in 1943 about 4,000,000 acres and raise in the parity to 19.10 a pound. On this advance spots made a new high for the season with the average for Middling 15/16-inch going to 19.48. Futures also went close to their season's highs.

Later the market lost part of this advance due to profit-taking sales by longs and increased hedges. Both were induced by the Allied successes in North Africa and talk that shipments of Indian and Egyptian cotton might soon be passing through the Mediterranean to Great Britain and thus reduce the demand for our cotton under the lend-lease program. Some of these hedges were attributed to selling by merchants and mills who had previously carried their cotton open.

The market steadied as soon as this liquidating and hedging movement was finished and has now come under the influence of other factors. The market rallied moderately as a result of this change, and, as this is written, is well over the quotations of a month ago.

Other influences tending to enhance values were: increasing tightness of December and small certificated stock, statements from members of the Farm Bloc that they will seek legislation to change the policy of deducting benefit payments from farm price ceilings, the order of Economic Administrator Byrnes suspending ceilings on farm wages and ordering a study of the effect of farm wages on ceilings for farm products, and the Government's reduction of nearly half a million bales in its November 1 estimate of the cotton crop. Certificated stocks total 28,907 while the open interest in December in the two markets is approximately 350,000 bales. There are also rumors that some longs will demand delivery. November 24 is first notice day for December.

The Crop Reporting Board reduced its estimate of the crop as of November 1 from 13,818,000 to 13,329,000 in bales of 500 pounds gross weight. This indicates a crop of about 13,000,000 running bales. Ginnings to November 1 total 9,726,443.

The New York Cotton Exchange Service uses this figure as the basis for estimating the season's supply at 23,605,000 bales compared with 22,671,000 for the previous season. This service estimates domestic consumption this season between 11,250,000 and 11,500,000, exports about 1,500,000 and the carry-over in this country at the end of the season about 10,700,000 compared with 10,500,000 at the end of the previous season.

Secretary of Agriculture Wickard did not announce the acreage allotment for next year on the 16th as is usual but limited next year's production to 10,000,000 bales of 500 pounds gross weight. This is equivalent to approximately 9,750,000 running bales. Cotton farmers will vote December 7 on whether or not they will accept this allotment. In the meantime, cotton farmers are expected to be offered substantial inducements to divert a portion of their cotton acreage to peanuts, soybeans and food crops. The 1942 allotment was 27,400,000 acres of which only 24,005,000 were planted. The harvested acreage is expected to be around 23,300,000.

The Secretary of Agriculture estimates domestic consumption this season at 11,400,000 bales and exports about the same as last season. Exports last season were approximately 1,142,000. He estimates the carry-over in this country at the end of the season at 11,100,000 bales.

The movement into the loan is increasing, indicating that the holding movement is widespread and strong. Loans tabulated in the week ending November 7 total 231,186 bales. Loans tabulated to that date total 687,526 bales. Only 1,914 have been withdrawn.

The Census Bureau reports consumption in October totaled 972,490 bales compared with 966,149 in September and 955,657 in October last year. Consumption for three months is given as 2,863,728 compared with 2,705,663 last season. Practically all spindles in place are reported in operation on November 1.

Conserving V-Belt Life

Multiple V-belt Drive Association, 140 S. Dearborn Street, Chicago, Ill., has issued a book prepared by its Engineering Research Bureau, entitled "23 Ways to Conserve the Life of Your Multiple V-belt Drives". This book is the Association's contribution to the rubber conservation movement and its sole purpose is to educate power users in the proper procedure of selection, installation and maintenance of multiple v-belt drives, in order to secure the maximum life out of every v-belt.

◆

"Maid of Cotton" for 1943

Announcement was made in November that a "Maid of Cotton" for 1943 will be selected before the end of the year. The winner will make the usual 16,000-mile tour of America, but instead of appearing in elaborate style shows, she will carry a wartime message of conservation and care of cotton goods.

An important part of her job will be the modeling of clothes suited to a nation of women at war work. She will tell these women what cotton garments are available, why they are best suited for the times, and how to conserve them. The contest is open to all unmarried, southern-born girls between the ages of 18 and 25. Although appearance, personality and background will be the principal points in the judging, special talents also will be considered, since personal appearances are planned at army camps and war bond rallies. Applications must be filed by December 20. The judging will reach a climax December 28, when a limited number of finalists will be taken to Memphis, Tenn., for personal interviews with a committee of three judges. Blanks for application may be obtained from the National Cotton Council, Memphis, Tenn., or The Cotton-Textile Institute, 320 Broadway, New York City. The "Maid" will go to New York for training shortly after her selection and will begin her tour of the nation probably early in the spring.

CENSUS REPORT OF COTTON CONSUMED AND STOCKS

—Bales—	This Season	Last Season
Consumption of Lint		
In United States, October	972,490	955,657
In United States, September	966,149	877,971
In United States 3 months	2,863,728	2,705,663
In Cotton Growing States, October	838,039	807,996
In Cotton Growing States, 3 months	2,477,572	2,296,158
In New England States, October	107,647	119,837
In New England States, 3 months	307,913	321,375
In All Other States, October	26,757	28,274
In All Other States, 3 months	78,243	88,130
Mill Stocks		
In United States, October	2,117,902	1,993,595
In United States, September	1,812,204	1,635,413
In Cotton Growing States, October	1,744,613	1,648,718
In New England States, October	307,293	287,153
In All Other States, October	65,996	57,724
Warehouse Stocks		
In United States, October	12,674,714	13,318,190
In United States, September	9,724,038	11,526,209
In Cotton Growing States, October	12,372,847	12,937,595
In New England States, October	284,526	358,601
In All Other States, October	17,041	21,994
Active Cotton Sp'ndles		
In United States, October	23,012,046	23,054,236
In United States, September	23,956,224	22,977,528
In Cotton Growing States, October	17,447,642	17,400,466
In New England States, October	4,939,578	5,014,282
In All Other States, October	624,826	639,488

..with Culofix

REG. U.S. PAT. OFF

With priorities . . shortages . . substitutes and the growing scarcity of high grade colors bringing many other problems, there's no need to put up with bleeding in water of direct color dyeings. Whether the trouble occurs while the fabric is batched up after dyeing; in the finishing bath; or any other place where fastness to water is necessary . . *the cure is Culofix*

Used as an after treatment, Culofix prevents such color bleeding in all rayons, cottons and mixtures . . either cloth or hosiery. It is especially valuable for preserving crisp detail and contrast in prints. Ask us how you can try it.

Arkansas Co., Inc.

NEWARK, NEW JERSEY

Manufacturers of Industrial Chemicals for over 35 Years

NEW EQUIPMENT and MATERIALS

New Yarn with Elastic Properties

American Viscose Corporation, 350 Fifth Ave., New York City, has announced the development of a new synthetic vinylite resin yarn with elastic properties, which possesses many of the characteristics of rubber and can be used to make numerous articles that heretofore have been made of rubber. For a number of purposes, it is stated, the new material is superior to rubber because it has better resistance to sunlight and to the deleterious effects of tropical heat and humidity, and is not affected by body acids.

At present the entire output of the new yarn is required for military equipment in which it replaces rubber. It has been used, however, for making a number of articles experimentally, and these products may be manufactured on a commercial basis when supplies of the new yarn become available. Articles in which the yarn can replace rubber include elastic webbing, tapes and cords, women's girdles and brassieres, surgical stockings, knee braces, supporters and suspenders.

◆

New Range for Knitted Fabrics

Birch Brothers, Inc., Somerville, Mass., have announced a range for handling knitted fabrics after they have been wet-processed. The range is made up of a splitting and opening machine in which is incorporated one of the company's patent vacuum extractors, preceded by a motor-driven Cook't patent de-twisting machine, and followed by an individual ceiling type folder driven from the opening machine.

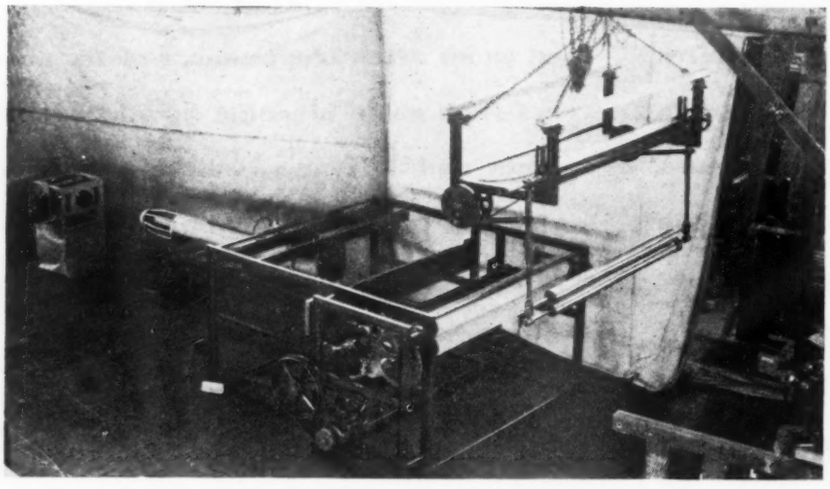
The twist is removed by the reversible motor-driven de-twisting machine from where the fabric continues, without stopping, to the rotatable nose of the semi-circular table or tube. This table has a slot through which light shines to assist the operator in guiding the drop stitch of the fabric straight to the rotary splitting knife. After being split, the cloth is opened and extracted by passing over one of the company's patent adjustable slot vacuum boxes and thence to the folder. The illustration shows the complete range except for the vacuum pump.

It is explained that this range saves a lot of handling of the fabrics which is necessary when the various operations are done one operation at a time. Two men, using this range, can remove the twist, split, open, extract and fold the fabric at a speed of from 15 to 40 yards per minute. The speed at which it is run being dependent on the type of goods to be extracted.

◆

New Tilt Trap

A new three-valve tilt trap for variable pressures on lifting service has been added to the line of deaerating systems for steam drainage and boiler feeding made by the W. M. Acker Organization, Inc., Cleveland, Ohio. The sturdy construction of female trunion supported on center bearings, and male steam and water ends which are relieved of any weight carried on the packing, is the same as that used on the company's basic return and non-return tilt traps.



Range for knitted fabrics

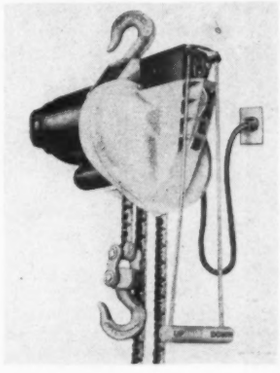
Wood-Reflector Light Fixture

The Edwin F. Guth Company, 2603 Washington Ave., St. Louis, Mo., have announced a new lighting unit designed to furnish high-intensity lighting for industrial inspection areas, also to produce illumination for high-bay areas. Conforming with WPB order L-78, it uses a non-metallic reflector. The fixture's high intensity illumination enables an inspector to see minute particles under the diffusing quality of fluorescent lighting. "Bump-proof" ends protect lampholders against abuse and insure correct distance between lights. The reflector has a deep light-cutoff and is formed of Masonite "Reflector-Board".

◆

Electric Hoist

The Yale & Towne Mfg. Co., Philadelphia, Pa., has designed a new Midget electric hoist, available in ⅛, ¼, ½ and 1 ton load capacities. It is made



in both a.c. and d.c. models, requires no extra equipment, needing only an electric outlet to plug into. It may be carried to any place in the plant with little effort.

◆

New Fabric for Screen Printing

American Viscose Corporation, 350 Fifth Ave., New York City, has developed a new fabric for screen printing of textiles and art work made of "Vinyon", a vinyl resin yarn, for use instead of previously used imported silk. It is stated the new fabric maintains its firm tension and does not sag when in use; its fibers do not swell when wet as does silk, and thus diminish the size of the meshes in the fabric; and it is not affected or weakened by caustic solutions. In addition, it does not absorb many of the dyestuffs used in printing, and is easily washed.

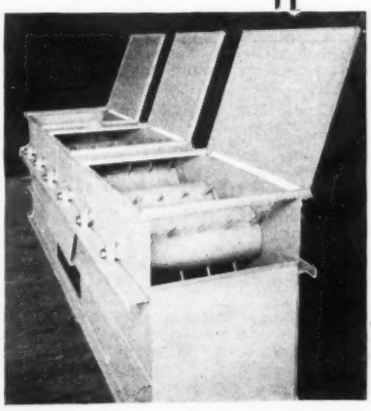
Development of the "Vinyon" fabric was commenced a number of months prior to the stoppage of Japanese silk imports, the company states, since it was recognized that "Vinyon" possessed characteristics which made it peculiarly suitable for screen printing fabrics.

WE ARE AT WAR!

WE are at war and essential supplies for winning that war must come first.

More than 50% of textile production is going into clothing, tents, tarpaulins, tire cord, sheets and essential supplies for Army and Navy use. Many mills are entirely on war production.

We appreciate the cooperation of our friends in the mills during the past year. For 1943, our efforts must be devoted to keeping up essential production. When opening and cleaning problems hold up war production, let us help you in keeping this machinery running.



Where new machinery is necessary for war production, we will cooperate in securing suitable cleaning machinery for your job.

Our first job is to win the war and all of our efforts must be devoted to that end.

The Centrif-Air Machine Co., Inc.

ENGINEERS *(Licensees for Superior Cleaner)* **MANUFACTURERS**

ATLANTA, GEORGIA

"Motor Finder"

Allis-Chalmers Mfg. Company, Milwaukee, Wis., have designed a "Motor Finder" for quickly selecting various types of squirrel-cage motors. In the form of a slide-rule, the device enables a motor user to match conditions under which the motor must operate with

the required motor characteristics and instantly learn the right motor type and its features. Only three simple steps are necessary to pick a motor. Since over 30 standard types, covering a range in horsepower from ½ to 75, are included in the company's Lo-Maintenance line, all of the characteristics of versatility of squirrel-cage motors are immediately considered in using the slide-rule.

◆

Zinc-Coated Lamp Bases

Sylvania Electric Products Inc., Salem, Mass., has announced the use of a zinc-coated steel base on some sizes of fluorescent lamps and the extension of this type base to all fluorescent lamps as rapidly as practicable, to provide a more positive protection against rust. The use of a zinc coating on the base eliminates the necessity of applying rust prevention measures.

◆

Steam Generator

A simple, compact, efficient steam generator which requires only fuel and water for automatic operation has been announced by Super Mold Corporation, Lodi, California. A new principle of water feeding, incorporating jet control, automatically and without the use of thermostats or motor-driven pumps, furnishes feed water in direct proportion to the amount drawn off as steam. The 1-h.p. model will develop 150 pounds pressure from a cold start in less than five minutes.

◆

Composition Reflector for Fluorescent Fixtures

Sylvania Electric Products Inc., Ipswich, Mass., have announced eight new industrial fluorescent fixtures with composition reflectors, made in line with the necessity of conserving critical steel. Fixtures range in size from 100 to 300 watts, and are available for either individual or continuous-row mounting. The reflectors are finished in Miracoat baked white enamel, and the outside of the units in French gray. They come complete with lamps and starters, ready to install and operate. New adaptable hangers for easier and better installation are included with all continuous-row models.

◆

Rabold Heads Piedmont Section, A. A. T. C. C.

C. Norris Rabold, of Union Bleachery, Greenville, S. C., was recently elected chairman of the Piedmont section of the American Association of Textile Chemists and Colorists, at its annual meeting in Greensboro, N. C. Henry B. Dixon, of May Hosiery Mills, Burlington, N. C., was made vice-chairman; Wyss L. Barker, of National Aniline & Chemical Co., treasurer. A. Henry Gaede, of Laurel Soap Mfg. Co., and T. W. Church, of Highland Park Mfg. Co., the retiring chairman, were made national councilors.

◆

Obituary

BENNET B. BRISTOL, who with his brother, EDGAR H. BRISTOL, founded the Industrial Instrument Co., in 1908, which later became The Foxboro Company, died at his summer home at Falmouth Heights, Mass., on November 10, following several months' rest from a heart attack, suffered last May. Throughout the history of The Foxboro Company he served as its treasurer and clerk.

GEORGE M. SIMMONS, vice-president and director of National Starch Products, Inc., New York City, died October 26 at the age of 59. He was the founder of General Adhesives Corp., and other companies which were merged in 1926 with the National Adhesives Corp.

OSCAR A. GEIER, senior partner in the law firm of Richards & Geier, and treasurer of the American Association of Textile Technologists, died on November 5. He was born in Zurich, Switzerland, in 1880, and came to the United States in 1914.

DAVID GESSNER, JR., assistant treasurer of Gessner Mfg. Co., Worcester, Mass., died October 15 after a brief illness. His father is DAVID GESSNER, president and founder of the David Gessner Mfg. Co., manufacturers of cloth finishing machinery.

ELGAR A. BRICK, 75, textile technician and consultant for the Onyx Oil & Chemical Co., Jersey City, N. J., passed away in October. He had been with the company for 31 years.

JOHN A. MITCHELL, 45, vice-president of Jordan Mills, Columbus, Ga., died on October 25 following a heart attack.

New Publications of Textile Interest

Jacques Wolf & Co., Passaic, N. J. Four pamphlets descriptive of products: Bensapol scouring and milling agent; Pentergent T (alkyl aryl sulfonate), a modern synthetic detergent and wetting agent; Superclear, a thickener for printing all types of textile fibers and fabrics; and Monopole Oil, for use in bleaching, boiling off, dyeing, kier boiling, mercerizing, and sizing and finishing.

Roller-Smith Company, Bethlehem, Pa. "Metal Clad Switchgear", Catalog 1110, describing and illustrating horizontal drawout metal clad switchgear in 100,000, 150,000 and 250,000 kva capacities at 5,000 and 15,000 volts.

American Crayon Co., Sandusky, Ohio. "New Industrial Crayon Guide", a booklet describing the uses of crayon in all types of industrial uses, including textile mill crayons—showing the method of selecting the correct marker for the job.

Fairbanks Co., 393 LaFayette St., New York City. Catalog No. 42 containing 176 pages and 250 illustrations, with descriptions of the company's bronze and iron valves and dart unions. Sectional views of most valves, illustrations of various parts, and many tables of valuable engineering information, are included.

American Air Filter Co., Inc., Louisville, Ky. "AAF in Industry", a 32-page brochure discussing the problems of air filtration and dust control in industry, and methods of their solution through the use of Electro-Matic filters in air conditioning.

Philadelphia Textile Finishers, Inc., 3701 North Broad St., Philadelphia, Pa., have issued an information bulletin on "Phil-Pro-Tex", an agent for repelling water, flame and rot, on canvas and other textiles. **William L. Barrell Co., Inc.**, 40 Worth St., New York City, is the sole selling agent of the product under "Flamefoil" as registered trade-mark.

American Pulley Co., Philadelphia, Pa. New catalog on American reduction drives, available in six sizes from ½ to 25 h.p.; these drives mount right on the shaft of driven machines, and with a standard speed ratio of 13:1, deliver any desired driven speed from 11 to 154 r.p.m.

The Foxboro Company, Foxboro, Mass. Bulletin A-321 on operation-time records, both electric-operated and mechanical, explaining the application of these instruments to the processes of various industries.

Universal Winding Co., Providence, R. I. "Getting the Most from Winding", No. 35, containing articles on setting the bunch builder on the No. 90 machine; thread guides and holders, cop holders, and specifying traverse wheels on this type machine.

Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa. "Warp Preparation Combs & Reeds", a new handbook on this subject. Some of the topics covered are: The Function and Importance of a Guide Comb or Reed; The Need of Detailed Knowledge of the Comb Required; Warp Preparation Combs and Reeds; Spring Expansion Combs; Long Link Positive Expansion Combs; Fan Reeds; Swing Combs; Fan Reed Holder; and Warp Leasing Device for Holding the Split Rods and Hook Reed.

Blackmer Pump Company, Grand Rapids, Mich. Bulletin 115 illustrating and describing the company's line of sanitary pumps.

American Pulley Co., Philadelphia, Pa. The new American Econ-O-Matic Drives catalog, designed to help getting the fullest use of power and increased production, and conserving power-transmission materials. It deals with both v-belt and flat-belt drives, and includes data on motor base mountings for special applications. Photographs and case histories of typical power-transmission installations are featured.

Power Transmission Council, Inc., 53-63 Park Row, New York City. P. T. C. Bulletin (Nov. 6 issue), reprinting a technical article on design of belts using idler pulleys, from "Industry and Power", and other transmission engineering helps.

DARNELL CASTERS & E-Z ROLL WHEELS

Whether for light, medium or heavy duty use, Darnell Casters and Wheels are built to take punishment.

Built-in quality assures a long life of efficient service—it pays to "Demand Darnell Dependability".

Write Today For
INFORMATIVE DARNELL MANUAL

DARNELL CORP. LTD., 60 WALKER ST. NEW YORK, N.Y.
LONG BEACH, CALIFORNIA, 36 N. CLINTON, CHICAGO, ILL.

What do you expect of

Certified Climate?

Are you figuring on stepping up your machine operating speeds?

Do you expect to benefit by higher and more dependable REGAINS; more uniform numbers, of greater strength, smoother and more compact drafting; less waste and fly?

Or — even without an increase in operating speeds, do you figure that fewer stops, fewer piecings, fewer seconds will step up production?

Textile Air Conditioning results most satisfactorily when production men and Certified Climate engineers work together as partners.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

PERSONAL NOTES
About Men You Know

BASIL D. BROWDER and RUSSELL B. NEWTON have been made vice-presidents of Riverside & Dan River Cotton Mills, Danville, Va. Mr. Browder has been with the organization for a number of years, and when GEORGE S. HARRIS became president a little over two years ago, was made assistant to the president. Mr. Newton, who was formerly superintendent of the Columbus (Ga.) plant of Bibb Mfg. Co., became general superintendent at Danville about two years ago.

RUSH S. DICKSON, head of R. S. Dickson & Co., investment bankers, Charlotte, N. C., has been elected president of the American Yarn & Processing Co., Mt. Holly, N. C., in which the Dickson firm recently acquired a majority stock interest. He succeeds the late C. E. HUTCHISON. W. H. SUTTENFIELD, who has been assistant to the president, has been made executive vice-president in charge of the company's operations.

J. E. BRADLEY, who has been merchandise manager of the cotton and rayon division of Pacific Mills, has been made general manager of these divisions, with headquarters at 214 Church St., New York City, succeeding AUGUSTE RICHARD, who resigned as vice-president and director of Pacific Mills to become chairman of the Army and Navy Munitions Board in Washington, D. C.

JULIAN M. LONGLEY, agent of the mill of The American Thread Co., Dalton, Ga., has been promoted to general manager of southern operations for the company, including also its finishing mill at Bristol, Tenn.-Va., as well as the Dalton plant. W. P. DUNSON is superintendent of the Dalton mill.

A. J. KELLY, chief chemist of the Burkart-Schier Chemical Co., has been elected chairman of the Southeast Tennessee Chemical Society, succeeding EMERSON POSTE. Other new officers are W. T. WATKINS, vice chairman; DR. W. O. SWAN, secretary-treasurer; and DR. I. W. GROTE, counselor.

J. N. MURPHY, of the technical service force of Quaker Chemical Products Corp., Conshohocken, Pa., is now a member of the American armed forces. A graduate of the Philadelphia Textile Institute, Mr. Murphy has been representing the company with headquarters in Atlanta, Ga.

T. D. FLACK has been promoted to superintendent of Wade Manufacturing Company, Wadesboro, N. C., succeeding I. B. COVINGTON, who recently retired from active service. Mr. Covington remains as a vice-president and director of the company.

WALTER F. KRAEMER, formerly superintendent of Pendleton Mfg. Co., LaFrance, S. C., has become overseer of dressing, including winding, warping and slashing, at the Dan River division of Riverside & Dan River Cotton Mills, Danville, Va.

R. BIGHAM SMITH, formerly sales representative of The Terrell Machine Co., Charlotte, N. C., with headquarters in Atlanta, has entered active duty as lieutenant in the Naval Reserve for engineering duty. His headquarters are 201 Comer Bldg., Birmingham, Ala.

ROBERT P. SWEENY, until several months ago superintendent of the Exposition Cotton Mills, Atlanta, Ga., has been appointed chief of the textile staff, Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington, D. C.

J. EMMETT WARREN and A. F. MULLINS, JR., have been promoted from assistant vice-presidents to vice-presidents of Avondale Mills, Sylacauga, Ala. Mr. Mullins retains also his position as secretary; Mr. Warren continues in charge of purchasing.

WILLIAM A. THOMPSON, who was recently elected a trustee of the New Bedford Textile School, has been promoted from overseer to assistant superintendent of the Quissett Mills, New Bedford, Mass.

SPENCER GREEN, for the past year a U. S. textile inspector, and who was formerly general superintendent of the Soule Mill, New Bedford, Mass., has been made general superintendent of the plant of Pierce Bros., Ltd., New Bedford.

TROY H. CARTER, of Greer, S. C., has been made superintendent of the Victor-Monaghan Company plant at Walhalla, S. C., succeeding W. P. LEISTER, who has retired after more than 20 years in this position.

C. RUSSELL GILL, vice-president, Southern Sizing Company, Atlanta, Ga., has entered the Chemical Warfare Service of the U. S. Army, being stationed first at Gadsden, Ala., for original training.

W. E. SHINN, instructor at the textile school of N. C. State College, Raleigh, N. C., has joined the chemical warfare service with the rank of major. He left the school, on leave of absence, on November 24.

FOSTER ELLINGWOOD, formerly with the American Woolen Company, has succeeded EVERETT MCGINNIS as superintendent of the Lawrence Blanket Co., Webster, Mass.

WILLIAM FAWCETT, for the past 10 years overseer of weaving at the Seneca Textile Division of Arkwright Corporation, Fall River, Mass., has resigned.

REVELL MCCALLUM has been elected president, and PHILIP J. FARLEY, secretary-treasurer, of the Propper-McCallum Hosiery Co., Inc., Northampton, Mass.

HARRY B. CURTIS, formerly with Carolina Specialty Co., Charlotte, N. C., is now connected with the Atlanta Belting Co., Atlanta, Ga.

(Obituary items, page 96.)

George Henderson in New Firm

George W. Henderson, formerly manager of the factoring division of the Trust Company of Georgia, Atlanta, and more recently associated with Dana M. Martin Co., New York City, has, with H. Irwin Moraff, formed the Henderson-Moraff Co., 40 Worth St., New York City, as a commission sales agency for cotton yarns and fabrics.

The following members of General Dyestuff Corporation, 435 Hudson Street, New York City, are now on leave of absence for military service:

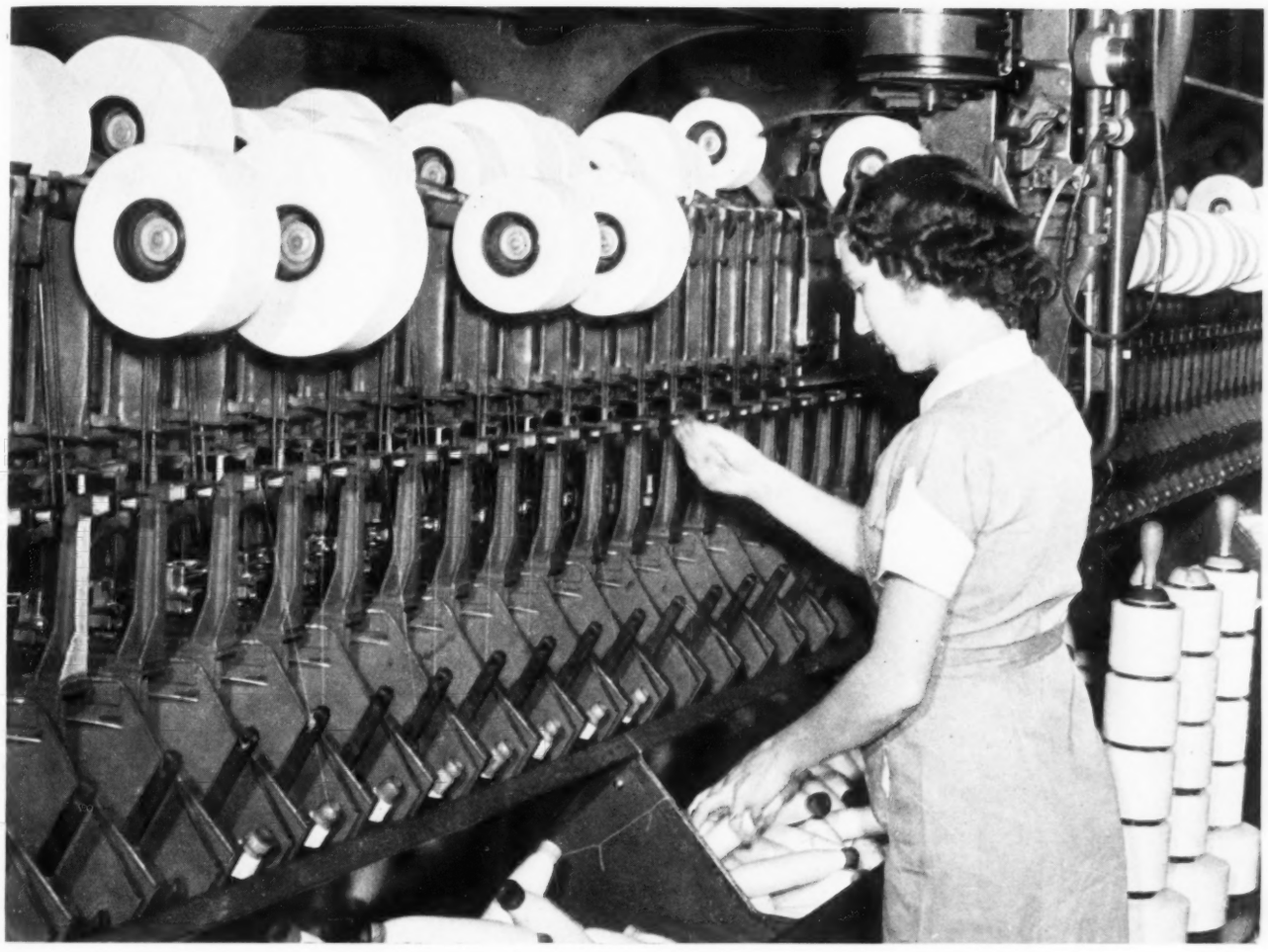
William G. Luqueer *is now a captain in the U. S. Army at Fort Oglethorpe, Ga.*

Raymond J. Carey *is a first lieutenant in the Chemical Warfare Reserves at Edgewood Arsenal, Md.*

Carl Axel Bergman *is now on duty at the Naval Medical Supply Depot of the U. S. Navy, Brooklyn, N. Y.*

Roy J. Ziegler *is now on duty at Edgewood Arsenal.*

George Brownlee, Jr., *of the company's Charlotte branch, is now on duty at sea with the Naval Air Corps.*



This Yarn will Weave Better

WHEN an operator on the Barber-Colman Automatic Spooler puts an end up in the clamp, it is the start of a process which leads to better weaving on the loom. The end from this bobbin is tied to the yarn on the cheese by a mechanical weaver's knotter that assures uniform, small knots with short tails. The winding is done at 1200 yards per minute with air friction only, to provide a uniform minimum tension and to retain all possible elasticity. Snick plates catch the gouts, slubs, and wild yarn and break out the end before such faults have a chance to be wound in. When yarn handled on Automatic Spoolers goes to the weave room, loom stops are substantially reduced, production is increased, weaving is improved, quality of product goes up, and costs go down. In addition, Barber-Colman Automatic Spoolers are easier on the operators because of handy working positions that keep fatigue at a minimum.

For Example . . .

The following production figures are taken from the spooler department of a mill now running fine combed yarn for war uses:

Count	60s
Ring	1½"
Traverse	5½"
Pounds per hour per Spooler	180
Beams per Cheese at 37,000 yds. per Beam	3

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • TWISTER CREELS • MOISTURE CONTENT CONTROLS

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

. . . OF IMPORTANCE TO PRODUCERS OF MILITARY FABRICS

3 Fighting Finishes for Uncle Sam

• If you are faced with the problems of fast, efficient and profitable production — then consider these three finishes. All meet U. S. Government specifications. They are easy to use — no special machinery required. You can get immediate delivery. Consult us — our technical experts will be glad to advise you how to obtain maximum results with any of these products.

REPEL-O-CIDE

WATER REPELLENT and MILDEW-RESISTANT for Tent Ducks, Percales and Other Fabrics

A new one-piece agent containing Orthophenyl Phenol in balanced proportions to meet Government specifications. Applied to all fabrics by padquetsch or in dye-beck. No curing or after treatment required. Suitable for a wide variety of U. S. service fabrics, including ducks, shelter tent ducks, balloon cloth, webbing, denim barrack cloth, camouflage cloth and percales.

METANOL

For MOLD - MILDEW - and - ROT PROOFING Burlap Sandbagging and All Canvas Products

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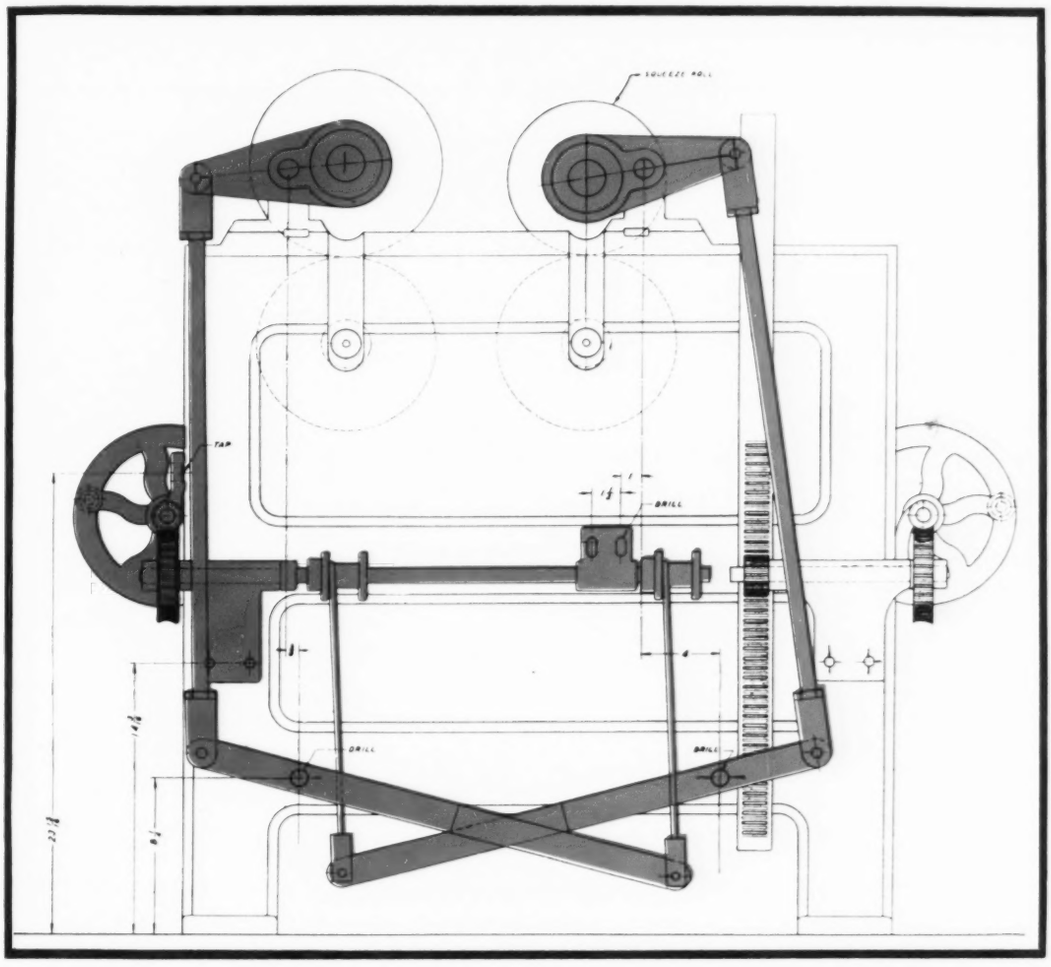
Modernize Your Size-Box



A NEW Lifting Device

This adjustable ball bearing hanger for size vats is a heavy duty, self-aligning bearing to support copper size rolls. Accurate roll alignment is maintained.

This ball bearing squeeze roll lifting device (illustrated in red) for size vats on slashers is designed to enable a single operator to raise and lower both heavy squeeze rolls simultaneously. This system of levers and connecting rods raises and lowers the squeeze rolls which are held firmly in position over the exact center of the copper size roll. Perfect alignment of the squeeze and size rolls prevents undue wear and tear on the blankets.

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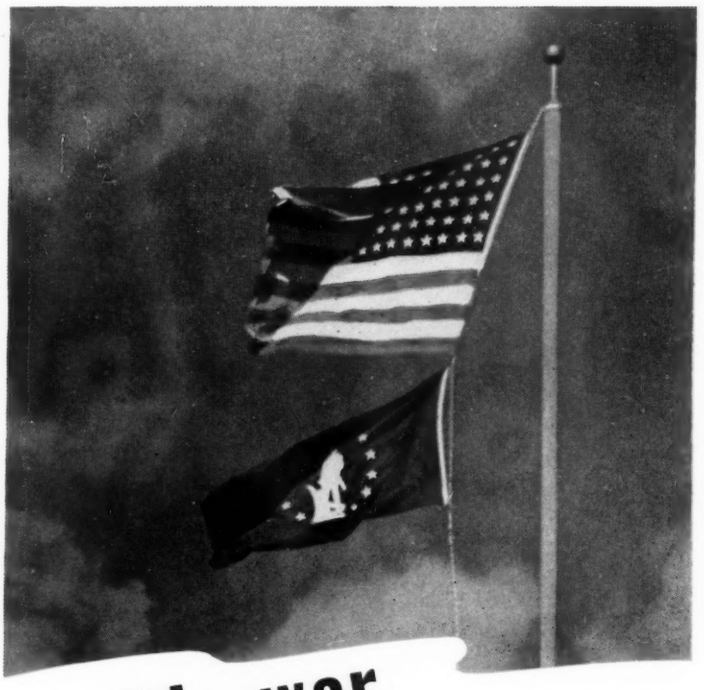

The Employees The Products and The Company of SONOCO are in this war all the way

This last year we date from December 7th. What little we have done since that time we are proud of — but, what we have not done we are determined to remedy and make up for during these next twelve months—

The job to be done stretches out a long way ahead of us. It calls for more effort than we have made so far—

What are we going to do about it?

The American people and American industry will answer that question during the next twelve months, and when December 7th rolls around again SONOCO will have made some of the answers.

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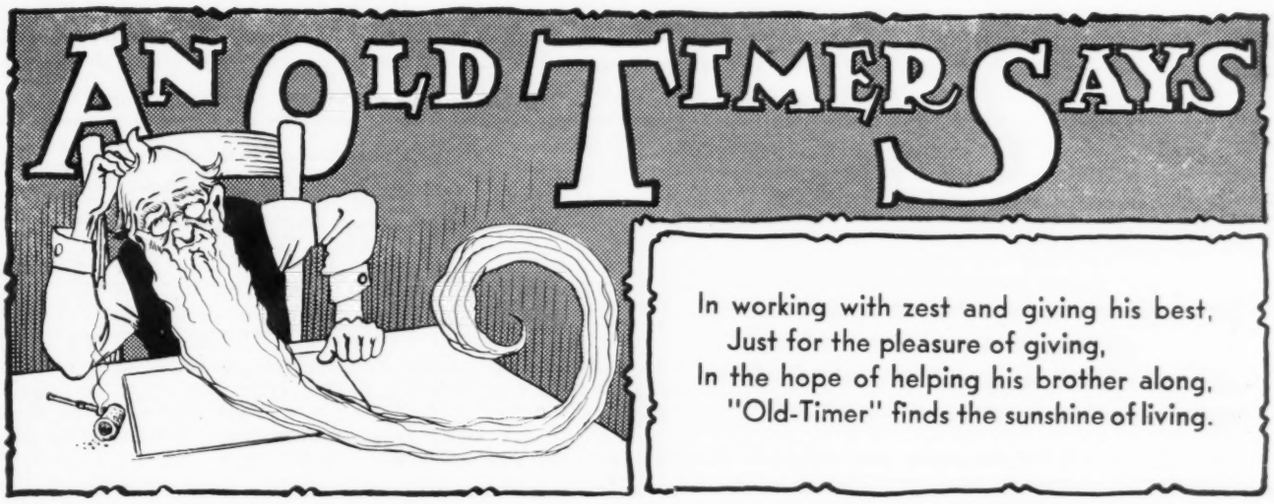
AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

A Simple System You All Should Learn

THE DICTIONARY defines the word "vocabulary" as "a list of words used by a person in speaking or writing". Then as a synonym the dictionary refers you to the word "diction", the meaning of which is, "the use, choice and arrangement of words and modes of expression". Under the synonyms of diction, the dictionary explains that diction is strictly a person's *choice* and use of words with no special reference to "thought".

"Expression" regards the word simply as the vehicle of thought. A man's vocabulary is the range of words he brings into use.

Then the dictionary refers you to the word "language" and defines language as "the expression of ideas by words. Expression of *thought* by spoken words."

All of this may sound a little confusing to some of you. Let's see if we can say it a little differently—more like talking plain United States, as the slang expression goes.

A man's vocabulary is simply his range or the number of words he uses in his daily talk, his talk to pass his thoughts on to other people.

A man's vocabulary reflects his education. I am not referring to college or even grammar school when I used the word "education", and I believe that we will be able to demonstrate to you clearly that a man does not have to go to college to acquire an education. Please keep the thought fresh in your mind that a man's vocabulary reflects his education. A man's vocabulary shows you how his mind works because words are the vehicle of thought. Words have got to carry your thoughts from your mind to the person you want to give an order to—to the person you wish to explain your actions to; that is, what you have done or what you want to do, or what you want the other person to do.

You use your vocabulary (which is simply the list of words you have at your command) to pass your thoughts on to the operatives who work for you, and you use that same list of words in talking to your employer, simply because that is all the words you have at your command.

Now right there is where you are handicapped, because it does not take any argument to convince you that you should not use the same list of words, the same vocabulary, in explaining the operation of a card or a spinning frame or loom to a green boy out of the country as you would to the superintendent or the general superintendent or any other mill executive. Why?

Simply because the same words used to the mill executive would be "Greek" to the country boy. The boy certainly would not know what you would be talking about, would he? If you said "draft" to him he very likely would think you meant a gust of wind.

Please follow me closely, fellows, because I am giving you these simple illustrations in order to plant a thought in your sub-conscious mind which can never get out—a thought for you to profit by the rest of your life even if you live to be a hundred—a thought which will expand your education by the simple method of enlarging your vocabulary, by giving you an ever-increasing number of words to express your thoughts, to explain to your fellow beings the workings of a card or a spinning frame or a loom, to better convey to your operatives the proper interpretation of collective bargaining—and, vastly more important, to enable you to discuss textile manufacturing with a mill executive.

You have a knowledge of textile manufacturing which you have acquired from years of practical experience. Now you need a vocabulary which will enable you to let that knowledge come out of your mind. You need a vocabulary which will enable you to join in conversation with mill executives and cause them to say, "By George, that man knows what he is talking about." Fellows, that will get you promotion—that will enable you to be more convincing in the giving of instructions to your employees and thereby get better results. Even an ignorant negro can soon tell whether the man talking to him is educated or not.

Every day, while reading your daily paper, you read words that you do not know the meaning of, and

COL Nº 1 → LIST OF WORDS	COL. Nº 2 DICTIONARY MEANING	COL. Nº 3 ← MY PERSONAL INTERPRETATION
#1 Ingenuity	The quality of having inventive power. Cleverness in doing things.	That section man has more ingenuity about machinery than any man I have seen in a long time.
#2		

Directions for use of this sheet: Write the word to be defined in Column No. 1. Write the dictionary meaning in Column No. 2. Study several times a day, and just before retiring at night. After two or three days' study, fold the paper so the arrow in Column No. 1 meets the arrow in Column No. 3. This will cover up the dictionary meaning in Column No. 2 so you can't see it while you write in your own words the meaning in Column No. 3. Unfold the paper and make the necessary corrections in Column No. 3 . . . . . .

you will never be able to use those words in your conversations until you do know their meaning. Those words simply do not exist so far as your mind is concerned because their meaning has never been planted in your mind. Once you thoroughly understand the meaning of a word, it enters your sub-conscious mind and is there forever, and that word will automatically come out in your conversation when your mind is expressing a thought.

Now don't be afraid of overcrowding your mind with words. There is no such thing as overcrowding a mind with knowledge. Remember the illustration we gave you in another article about the human brain? Maybe it is worth repeating. You see, all kinds of containers, such as barrels, hogsheads, tanks, reservoirs and the large reservoirs the power companies build—all of those things can finally be filled up, can't they? It would seem then that there is nothing in the world which cannot be filled up, but I am here to tell you there is: *A human brain can never be filled up.* And the strange fact is that the more you put into it, the greater its capacity is; the more knowledge you put into a human brain the more knowledge it will hold. Putting money into the bank is a good thing for anyone to do, but you can always draw that money out. But knowledge put into that brain of yours can never be taken out. It will be right there to serve you as long as you live.

Now we are going to show you how easy it is to be putting knowledge into that brain of yours every day, how easy it is to enlarge your vocabulary so that you will talk like other educated men because *you* will be educated. If you will keep up the system we will guarantee that in two years' time you will have a darn sight better vocabulary than many college men, and when you talk textile manufacturing with the mill president he will realize he is talking to an intelligent mill man, and intelligent mill men are bringing a premium, fellows—not just today or in time of war, but they always have and always will.

By way of making a start toward enlarging your vocabulary, here is, from a recent newspaper, the text of the citation with which President Roosevelt bestowed the Congressional Medal of Honor upon Lieutenant John D. Bulkeley, for his daring exploits as commander of a motor torpedo boat squadron for four months in Philippine waters. It was recently published in the daily newspapers as follows:

"For extraordinary heroism, distinguished service and conspicuous gallantry above and beyond the call of duty, as commander of motor torpedo boat squadron three, in Philippine waters during the period December 7, 1941, to April 10, 1942. The remarkable achievement of Lieutenant Bulkeley's command in damaging or destroying a notable number of Japanese enemy planes, surface combatant and merchant ships, and in dispersing landing parties and land based enemy forces during the four months and eight days of operation without benefit of repairs, overhaul or maintenance facilities for his squadron, is believed to be without precedent in this type of warfare. His dynamic forcefulness and daring in offensive action, his brilliantly planned and skillfully executed attacks, supplemented by a unique resourcefulness and ingenuity, characterize him as an outstanding leader of men and a gallant and intrepid seaman. These qualities coupled with a complete disregard for his own personal safety reflect great credit upon him and the naval service."

Without asking you if you see any words in this citation that you do not know the full meaning of, we will select a few words and look them up here in the dictionary to see if the correct meaning coincides with the meaning we have in mind. You know, in reading or hearing a man talk we have a general idea of a word used but if someone should ask us the correct meaning we could not define it.

Having a *general* idea of the meaning of a word is caused by knowing the meaning of other words in the sentence. We get the general idea of the whole sentence that way. But those words which are used that we do not know the correct meaning of do not register in our minds. Therefore, they are not in our vocabularies and we can never use them in our conversation. That is why you often hear or read an interpretation of a collective bargaining problem but you cannot use that same reasoning in expressing yourself to an operative or to a mill president because those words are not a part of your vocabulary. They simply are not in your mind, and therefore they cannot come out.

One of the first words we see in the newspaper account of the citation, and a word which you can use to good advantage in expressing your thoughts about your work is "precedent". The dictionary says "precedent" is, "previous usage or established mode of procedure." That is a little high-brow talking, so let's see if the dictionary gives a more simple explanation. How's this? "Considered as furnishing a rule for later decisions."

Then "without precedent" as used here must mean that no man has done before what this man did with that torpedo boat.

Another word is "dynamic". The dictionary says that "dynamic" is, "pertaining to motion as a result of force. Producing action." Lieutenant Bulkeley showed force and action in his handling of his torpedo boat.

The next word is "supplemented". The dictionary says "to supplement" means to provide what is lacking". Boy, that man made up for what was lacking in his repairs and equipment, didn't he?

"Resourcefulness". The dictionary says: "Capacity for finding or adapting means". That commander could find ways to do it.

"Ingenuity". The dictionary says: "The quality of having inventive power, cleverness in doing things." Some section men have more ingenuity than others. (Make a sentence of your own, fellows, using the word in a sentence about your work, and you will never forget that word.)

"Characterize". The dictionary says: "The qualities distinguishing a person's qualities or reputation." President Roosevelt said Lieutenant Bulkeley's actions "characterized" him as an outstanding leader of men. Say, fellows, isn't that the very thing we are trying to do here—make us all "outstanding leaders of men"?

"Intrepid". The dictionary says: "Unshaken in the presence of danger."

There you are, gentlemen, six words out of a small newspaper clipping. Do you begin to see what we are trying to get you to do to enlarge your vocabulary?

For several years I looked up words in the dictionary and tried my best to remember them, but it did not work. In a few months I'd have to look up some of those same words again. This finally convinced me that simply looking up these words and reading their meaning would not do the job. But if you will carry out the following instructions we will show you a simple system devised 25 years ago that still works. It is as good today as when we first worked it out. Here it is:

While reading your daily newspaper or your textile magazine or anything else, have your dictionary by your side. In the dictionary have a sheet of paper something like we are showing in the accompanying illustration. You will notice the heading for Words. The next heading is for Dictionary Meaning of those words. The next heading is: My Personal Interpretation for those words.

The procedure is obvious. As you read a word you do not thoroughly understand, stop right then and set that word down on the paper. When you finish reading, write down the dictionary meaning opposite each word. When you have five words on the paper, begin to study them, read the meaning of each word just before retiring, carry the paper in your pocket, put it in front of you while eating breakfast, so you can read the dictionary meaning over and over as you eat. Read these several times during the day.

Then at night, fold the paper according to instructions, which you see hides the dictionary meaning but leaves a space opposite each word for you to write *your* meaning of each word. Make a sentence about your work using the word, if you possibly can.

Now open the sheet of paper and you have before you the word, its dictionary meaning, and your meaning or interpretation of that word. The fact that you have fixed in your mind the correct interpretation of that word by making a sentence about something you are familiar with has fixed that word in your subconscious mind and it will automatically come out in your conversation when your mind has formed a thought. You will not need to make any effort to remember to use the word. It will automatically come out during your conversations and you will soon discover yourself using words you have never used before. You will take pride in expressing your thoughts more intelligently. You will find that you can explain anything more convincingly. Your conversations will carry more weight than the conversation of the other fellow who does not have the vocabulary to express his thoughts properly.

Now, to demonstrate how badly you need this simple study, suppose we call out 20 words slowly and let you keep account in your mind of how many of the words you know the meaning of. Naturally I am going to pick words I think you may not know but I will pick them from newspapers and magazines and books such as you usually read.

Here goes: Diagnostic, mimeographed review, trainee, auxiliary, debris, evacuated, incendiary, tangibility, hypothetical, assimilation, fundamentals.

Here's one I saw in the morning paper: Repatriation.

Here's a sentence from a book on foremanship: "These booklets comprise a study of the *economic, social* and *psychological* factors of employee relations." Unless you understand the meaning of the words *as they are used in that sentence,* then it is impossible for you to follow the thought of the man who wrote them.

The reasoning also goes for other words in this booklet. "Hypothetical," for example. The sentence is in part, "These cases may be hypothetical cases drawn from happenings right in the local organization." Gosh, fellows, you better look that one up quickly; it may be some new kind of a strike or something.

And we don't have to go to books and newspapers for words. Suppose we look back over the words we have used in this article and see how many words we find that we do not know the exact meaning of.

The sample sheet we are showing you will hold about five words, but please do not discard the first sheet when you start a second one. Merely put Sheet No. 1 with another sheet and carry them in your pocket so you can glance over them several times a day. When you know you have mastered the words on Sheet No. 1, then leave it at home, but be sure to glance over it about once a week for several weeks before discarding it.

In reading, you may find it difficult to stop reading in order to write a word down that you do not know the meaning of. If so, then simply pencil mark the word you wish to look up in the dictionary and when you have finished reading the article look up the pencil-marked word and write it down on your sheet of paper.

OLD-TIMER has shown this system to quite a few college graduates who have benefited greatly by its

(Continued on page 114)

Cutler
SPINNING TAPE

Streamlined for Power Saving!

The War Program of the United States demands from the textile industry of the country no small measure of co-operation.

In order to obtain the best results possible the mill men have turned almost 100% to the use of those textile products which are known to be the best obtainable.

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The savings realized by the use of CUTLER TAPE speak for themselves and, in keeping with the spirit of the times, they might well be interpreted as saying:

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HOW OTHER MEN MANAGE

Who and What Cause Most Broken Picks?

WE INVITE our readers to make use of this department for the discussion of any and all problems arising in the mill or finishing plant. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing.

◆

EDITOR COTTON:

Seventy-five per cent of all broken picks are on the bobbin.

Hold on, there! What are you talking about? Fix your looms! Why blame the yarn department when your own is responsible? So say the overseers of the departments that spin, twist or wind the filling yarn onto the bobbins.

But we are the weaving overseers. We weave the filling yarn which is sent to us. We have no control of the filling going onto the bobbin. We can only take in good faith what is given us and then shout loud and long if it is not right. And we still say that 75 per cent of all the broken picks are on the bobbin. So speak the men in charge of the weave rooms.

Is this an overstatement? No. Not on many of the styles woven in most mills where filling feelers are used.

A broken pick, as the name implies, is a break in the continuous length of the filling yarn. This yarn being again trapped in the shed some distance away, and because the loom keeps running, the result is a broken pattern in that portion of the cloth between the end at point of break and the end at the beginning of sequence where the filling was retrapped. These broken picks are one of the major causes of second quality cloth and are a constant headache in all weave rooms.

It is true that many broken picks are made in the weave room, but a greater number get into the cloth due to no fault of the weaving. These are a source of great controversy and in many cases bring about a strong issue between the weave room and the yarn departments.

In a number of instances broken picks are hard to trace and because of this fact, loom fixers working on looms, looking for the direct cause there, exert much effort but to no avail. Here again a question arises. What is wrong with the filling stop motion? Why does not the loom stop when the filling is broken? To answer this question one point must be considered, namely:

The relative position of the break in the filling in regard to the controlling point or points of the stop motion.

There are two types of filling stop motions being used: the side fork type and the center fork type. The basic principle in both types is the detection of broken filling by a pronged device termed a fork. The main difference in the two types being the point at which detection occurs. There is also a difference in the system of knocking off the shipper handle and the time required to stop the loom.

The center filling motion, if kept in proper condition, is generally conceded to be more accurate. The side fork being more universally used in cotton weaving, however. As the names imply, the side fork detects broken filling with the fork situated, in most cases, on the shipper handle side of the loom, at the extreme end of the reed space. The center fork detects broken filling at the center of the reed space. Thus it can be seen that detection occurs once every two picks with the side fork whereas, it comes every pick with the center fork.

But this is not intended to be a description of any loom mechanism. The only object of this diversion from our main subject is to fix upon the mind the relative positions of the detection points in each type, and thus follow more clearly the reasoning that will be put forth. Let us assume that looms are all equipped with a side fork motion, knowing that this type is more universally used and also knowing that the basic reasons will also apply to the center fork, allowing for the difference in the position of filling breaks because of the difference in the position of the fork.

It becomes apparent that, because the fork is always at a fixed point, it is rendered useless unless the filling is broken and not re-trapped when the shuttle is passing this point. In other words, if the filling is broken after the shuttle passes the fork, but is retrapped before it reaches the same point once more, it will not be possible for the fork to detect broken filling as no broken filling is present at the point of detection. Herein is the reason, therefore, for the failure of the filling stop motion to operate, with resultant broken picks getting into the cloth. It is also due to this reason that filling yarn must be put on the bobbin perfectly; otherwise trouble is the result.

One of the biggest sources of broken picks, on looms where filling feelers are used, is filling wound on the bobbin without a bunch of reserve. This bunch is necessary on the bobbin to allow a supply of yarn to carry over after feeler indication and transfer of a full bobbin occurs. When there is no reserve on the bobbin one of two things happens:

1. Because the last layer of yarn on the bobbin prevents the feeler from indicating, the filling runs out as the shuttle approaches the filling fork. When this is done, the fork detects the lack of filling and

the loom stops. The weaver matches the correct sequence of picks and re-starts the loom.

2. The filling may be almost completely used up at the point of detection with only a very small portion remaining on the bobbin. Because the bare part of bobbin is in line with the filling feeler, indication for bobbin transfer results. Inasmuch as the filling remaining is still in the path of the fork the stop motion will not operate. The shuttle recrosses and before reaching the other side the filling runs out. Because the feeler indicated for transfer, a new bobbin will go into the shuttle. The loom will not stop, as no stop could possibly be expected, and a broken pick is the result.

The amount of yarn on the bunch or reserve is very important. Frequently the reserve of yarn in the bunch is very short. Here again it can be clearly seen that this results in the running out of the filling before the shuttle crosses the shed and a new bobbin is placed in the shuttle. This results, in many cases, in a broken pick of a short length, as the length of reserve may be just short of a full pick. But to conclude that the length of one pick of filling is sufficient to insure against broken picks due to the run-out of filling before transfer would be erroneous. It must be remembered that a filling feeler of the sliding type is a delicate instrument and therefore registers accurately. If this was not the case a feeler would not serve its purpose. A feeler should not indicate for transfer if any obstruction remains on the bobbin. If this happened, it is clear that many transfers would be made needlessly and thus create excessive waste or work. Because the feeler is accurate, it requires a filling bobbin which is built as nearly perfect as possible and in addition the reserve must be of sufficient length to carry over for several picks and not just one.

Any slight roughness on the bobbin directly in the path of the feeler tip may be sufficient to defer the action of the feeler and no transfer will result at that time. However, if several picks of yarn are on reserve it is very likely that the first action of the feeler tip is enough to smooth out any slight roughness on the bobbin with the result that the transfer is complete when the feeler next indicates. The length of yarn in reserve on the bobbin being sufficient no sequence of picks is broken which would be the case if the reserve was too short.

It can also be seen that, in the process of unwinding, the yarn on the bobbin may lie directly in the path of the feeler tip. This will prevent the feeler blade from completing the indication at that time. The yarn will be in another position when the shuttle is again in line with the feeler and if sufficient reserve is on the bobbin the transfer will be completed without damage. It is also evident that, in unwinding, the beginning of the reserve does not always, in fact, very seldom, occur at the point of indication. The last layer of yarn may be spent and a portion of the bunch unwound immediately after leaving the feeler or somewhere after this point but before shuttle is in line with feeler again. In this case again, a short reserve will invite a broken pick.

Bunches which are preceded by a layer of yarn extending the length of the traverse are a decided factor in making broken picks. To all outward appearances the bunch is perfect. But as the filling unwinds, the layer of yarn on the bobbin is sufficient to stop the feeler blade from sliding. This layer of yarn being the first to go on the bobbin will, naturally, be the last to come off. Because of this, the bunch will be unwound while the feeler fails to indicate. It may be that a sufficient portion of the last layer will be unwound the next time the shuttle is at the point of indication to allow for completion of transfer, but because some yarn will remain on bobbin to lift the filling fork the loom will not stop. This yarn not being of sufficient length to cross the shed, will run out before shuttle reaches the other side. A broken pick results.

Filling yarn placed too far away from the butt of the bobbin, or started too high on the bobbin, is another source of broken picks. The bunch being away from its correct position on the bobbin will probably be in line with the feeler blade and therefore prevent indication for transfer until most of the reserve is gone. The yarn remaining at this point will, most likely, be too short for the completion of the pick.

Other sources of broken picks are: Slugs or bunches, weak places in the yarn, cut fibers, rough or split bobbins, waste fly, double ends, and bobbins built too large in diameter to fit the shuttle. All of these defects tend to break the yarn at its weakest point when it has reached the outside of the shuttle eye. This yarn, hanging out of the shuttle, is retrapped by the closing shed and the broken picks are made.

The foregoing are some of the biggest problems confronting the weave room but are not the only defects in the yarn on the bobbin. Many more could be mentioned but the elimination of those discussed here would be of real help to the weave rooms.

This was written from a weaving standpoint only, and is not intended to show how these defects are made or remedied. This is a yarn preparation department job.

P. R. K. (MASS.)

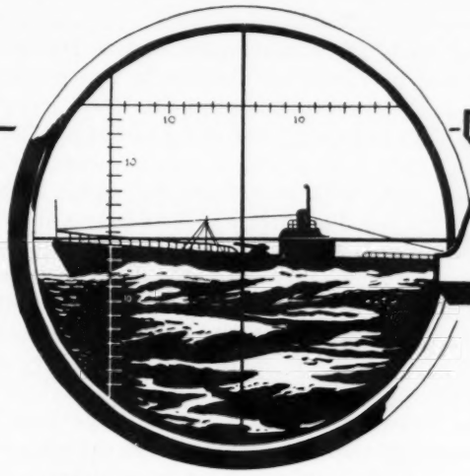
Timing the Harness

EDITOR COTTON:

"CONTRIBUTOR No. 7349" asked the question: "What is the best timing of the harness on average plain weave?"

There are several things that enter into this question. Not knowing the construction, counts of yarn, etc., it is difficult to say what would be the right timing. In speaking of average plain weave, one weaver might think of a weave of 144x76, 40s yarn, as "the average", while another man would call a 64x64 sheeting "average". Furthermore, if weaving is all that is considered, a loom would be timed differently from what it would be if quality and cover were essential.

For ordinary plain weaves, say up to 100 sley, I would time the harness to be level when the reed is 2¾ inches from the fell of the cloth, provided the crank



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shaft in the loom had a 2½ inch throw; by throw, I mean the distance from the center of the crank shaft to the center of the crank.

If the throw were longer, say 2¾ or 3 inches, I would time the harness to level 3 to 3¼ inches from the fell of the cloth. This would, I think, be a happy medium.

If the harness levels up too close to the fell of the cloth, we have bad cover and a tendency to bag between the sand roll and the reed. If it is timed too far back or too early, we have the harness closing before the shuttle clears the shed, causing numerous troubles such as rolling the selvage ends and the shuttle slapping in the box, as the shed closes too quickly lifting the shuttle from the race plate.

Of course it is assumed that all other parts of the loom, such as the whiproll, breast beam, stop motion, girts, and whatnot are set in the proper position. For the weave we are weaving, all pick motions should be timed to start the shuttle from the box on top center. The harness will be open at this point if timed as I have described it.

Some fixers on the new X-Model high speed looms time the pick a little early of top center. This may be all right for those looms, on which I have had no experience. The information I have given covers Model E, Model D, and Model K Draper, and Stafford looms.

CONTRIBUTOR No. 7362

Controlling Sizings

EDITOR COTTON:

On page 124 of the July issue, "CONTRIBUTOR No. 7378" asked for some constructive discussion on keeping numbers or sizing in the carding department, and I would like to offer to him and other readers the set-up of a well, even running card room.

In order to get even sizings, in the card room, it is necessary that we start in the opening department and blend well. To do this, I offer the following method: We know that when mixing compressed cotton with what is known as local cotton, it takes about twice the working of compressed stock to get it opened and bloomed. The compressed stock has been packed into a smaller bale in order to be able to ship more cotton to the mill in one box car. We must realize that if Delta or California irrigated cotton was put up in the same size package as our local cotton it would take almost twice the number of cars to transport it out of the territory in which it is raised—therefore, the compressed bales. This compressed state of the cotton when it reaches the mills to be consumed has a tendency to make the staple stick closer together, and if it is worked in with locally baled cotton it will in all probability, unless given time to age after opening, make uneven work in any mill where the two are used together.

See that all re-worked waste is evenly fed into the mix. Keep the same amount going in at all times, controlled by a special waste hopper. This does not apply to lap waste, but only to front card waste, lap and ribbon waste from combers, slubbers and drawing.

Roving waste from intermediates, fine frames and spinning will of course go through a waste machine and the staple get straightened out, then it is run back into the mix through the controlled waste hopper.

At the cards it is practical on fine work to creel every other card with laps from the picker. Doing this will eliminate the thick and thin places in a way to keep all these piecings out of the same doff at the cards. Strip every other card for sliver as a whole to be average weight. If the mill has six-head ribbon machines, three laps should be creeled in at a time here, and on combers, for more even work, every other lap should be creeled in there.

At the drawing frames I have always been able to keep numbers there by weighing the drawing every four hours. If the carding is set up as described, the changing at the drawing will be cut in half. The draft gears will seldom have to be changed at the slubbers.

One important rule, however, is to keep the percentage right on the combers.

Mills usually purchase cotton in 100-bale lots, and it is a good idea to have the comber overseer check the percentage after he is sure that the new lot of cotton has entered the mill far enough to make this check. There is a possibility that the very next day after he has regularly taken the percentage on the combers, the new lot of cotton will get in the mill, and if it is of a different character there is a possibility that the combers taking out the correct percentage of waste on the previous lot of cotton may not take out the desired percentage on the new one, and this may go on until the next regular time to check the percentage again. This percentage should be checked weekly—*and* at the start of a new lot of cotton.

After all of the foregoing has been checked and running, the next point will be to see that all sliver-ribbon lap rolls are in good condition. This also applies to drawing frame rolls. Where common top rolls are used, they will have a tendency, if too much varnish is used, not to start with the bottom steel roll, thereby causing a thick and thin place in the sliver. This hazard is more likely to occur on frames where the stock enters too heavy, and the top roll does not come in contact close enough for the bottom steel roll to turn it. Since this top roll at all times depends on the bottom roll to turn it, we know that this will cause uneven work if the top roll does not turn freely.

The overseer on a combed job must train his employees in the fine points and get them interested in their work enough so that they show up or call the attention of the fixers to these little important things that will, if not attended to, throw the best job out of balance.

I would suggest to "CONTRIBUTOR No. 7378", who asked this question, to keep his regain indicator, but I would have this instrument checked by the manufacturer to see that it is in perfect working order.

CONTRIBUTOR No. 7386

Don't miss the topical cross-index of the articles published in "Cotton" during 1942. You will find it just inside the front cover of this issue.

Production Insurance For Spinning Frames

Better than 7 out of 10 mills use NON-FLUID OIL on Spinning Frames. It guarantees highest output of clean yarn because it does not creep from roll necks to damage yarn and roll covers.

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Letters from a New Overseer to a Second Hand Back Home

No. 6.—Blowing-off the machines; variable beamer speeds

DEAR FRANK:

Do you still read OLD-TIMER'S articles in COTTON like you used to? Well, I do not have so much time to read right now with the Beta Mills on a seven-day-a-week schedule, but I did read the one in the April 1942 issue on a merit system for employees and using the blow pipe in the mill.

Personally, I cannot say just how well such a system as he suggests would work in a mill with a strong union like we have here, but you will recall that we once had a similar system at the Alpha mills, where we were both second hands together. Only the overseer and the second hands of each department were solely responsible, as I recall, for keeping a record of the demerits. OLD-TIMER suggests a committee. This might work better; at least it would give the worker the assurance that he would be treated fairly.

You will remember that we had a large "check board" in each department, with hooks for hanging small brass checks. These hooks were numbered to correspond to the employee's number on the check. Each employee would hang his check on his proper hook on coming to work in the morning. Promptly at starting time the box was closed and any employees coming in late would drop their checks in a "late box". One demerit was marked up against each employee coming in late.

Demerits were marked up against employees for bad work, such as mixing yarn, trips to the cloth room, singlings, doublings, dabs, etc. Infractions of the rules would call for one or more demerits.

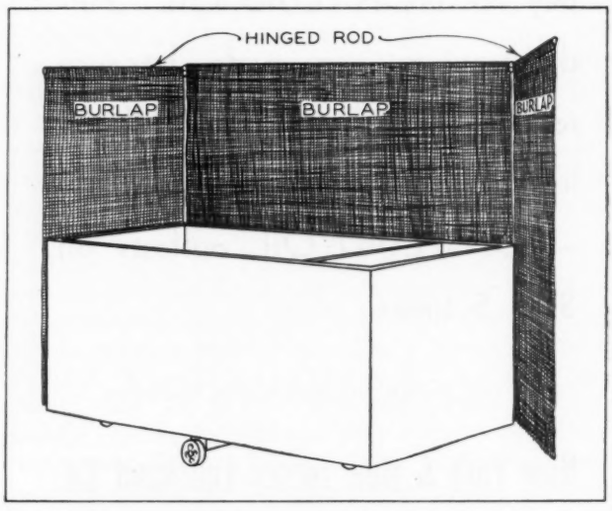
At the end of the year, if I remember correctly, the three employees making the *most money*, and having the *fewest number of demerits*, were given prizes. It has been some time ago, and I may not have all of the facts straight, but I believe that the employees of each department competed only with each other, and not with employees of other departments.

Of course some of the help liked the plan, others did not. Possibly it was not worked right. A committee of workers, chosen by themselves, to help decide when demerits were to be given, might have made this system work more successfully.

"Blowing Down" the Machines

I think OLD-TIMER is right in his remarks about how much bad work is being caused by the blow pipe in the mill. Yes, we use the blow pipe in my own department, but I do not like it. The air, turned on full force, as most of the workers insist on doing, stirs up a lot of lint, dirt, grease and trash and it falls all over the machines, on the stock in the machines—that is, on the warps, on the yarn on the spinning frames and the twisters—and on the stock stored in open bins or boxes. It blows oil and grease on the warps and on the cloth. It blows the lint and dirt into the air where one breathes it.

We use, to a certain extent, long-handled brooms for brushing down, and mops and brushes for cleaning the machines, but with the limited amount of help we are allowed, it is almost impossible to get the cleaning done with this slower method, but I find it much more satisfactory than blowing off. Naturally the average hand would rather use a blow pipe in preference to a mop; he can get the *lint* off his machine more quickly and easier—but has he really



A portable screen for protecting looms adjacent to loom being blown off with compressed air . . .

cleaned his machine? While the air will get the lint, it will not remove the oil, and unless the oil is removed the lint soon settles on the machine again and soon one cannot tell that the machine has been cleaned at all. Wiping the machine with waste will remove the surplus oil, so that the lint will not stick so easily and the machine will stay clean longer.

But, until some satisfactory speedy and economical vacuum cleaning system is devised it seems that we will have to make the best of the blow pipe. Where practical, machines and stock should be covered and when one has finished blowing down, the air may be

This is the sixth in a series of letters from "John", who recently left "Alpha" mill to take his first overseer's job in "Beta" mill, in another state. He is writing back home to "Frank". The first letter appeared on page 81 of the November 1941 issue, the second on page 96 of the January 1942 issue; the third on page 72 of the March 1942 issue; the fourth on page 93 of the April 1942 issue; and the fifth on page 114 of the May 1942 issue.—THE EDITOR.

Where a Record Speaks Louder than Words

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HE IS the *one* man in this company who is a chronic critic of PENN-TAN Check Strap Leather. While most of us and most of our customers are pretty well satisfied with PENN-TAN and believe that it is the equal of *any* check strap leather . . . this man is always finding fault and suggesting changes. And yet we like it.

In fact . . . that's exactly what we pay him to do, because he is our research chemist. Continuously, this man and his assistants are experimenting with new tanning agencies and new methods of impregnating leather to increase the toughness and wearing qualities of PENN-TAN. As fast as these improvements are perfected and proven, they are applied to our production.

As a result, PENN-TAN Check Strap Leather is constantly being improved . . . giving users better and longer service. Test PENN-TAN on your next order for check straps. If your regular supplier cannot furnish PENN-TAN, we will be glad to tell you where you can obtain it.

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cut down low and the covers blown off before being removed.

One source of bad work from blowing off is in the weave room. In our weave room, as in many others, it is customary to blow off the looms when the warps run out, and the oily cotton from this operation frequently gets on the warp of adjacent looms with resulting damage. Our weave room has devised a portable screen, made of burlap, and mounted on the side of an ordinary "roller box", made the correct width for the back alleys. When the empty beam has been removed from the loom the loom cleaner brings his box with the screen to the back of the loom, opens it up and proceeds to blow off the loom. Some of the lint sticks to the burlap and may be brushed off later. But the principal advantage of the screen is that it prevents the oily and dirty cotton being blown onto the warps and the cloth on the adjacent looms. After the loom has been cleaned the cleaner sweeps up the waste and puts it in his box. Or it may be put in a bag carried in the box and later carried to the waste house. The box has a small compartment at one end for bolts and miscellaneous scrap iron that may be picked up while sweeping. The second hand or the head loom fixer passes on this scrap iron before it is carried to the scrap pile.

Variable Speed on Beamers

I understand that you have installed variable speed drives on your beamers. We have installed one and like it fine. Of course there are some "bugs" to be worked out. The beamer, designed for a comparatively slow speed, would not stand the high speed without considerable overhauling. Anti-friction bearings would probably improve the running of the beamer. Another trouble we had was that the beamer would not stop promptly, especially with a light warp, so the machine shop devised a good air brake which works in connection with the belt shifting rod. Perhaps you have already found out that when the *driven* discs of the transmission are revolving at the highest speed, in turn driving the beaming pulleys at their highest speed, and when the beamer is stopped for any great length of time, there is danger of "burning out" the loose pulley. To overcome this we slow down the transmission by operating the follower by hand, then stopping the pilot motor which operates the hydraulic control, which reduces the speed of the output shaft of the transmission to its lowest point, in turn slowing down the loose pulley reducing the danger of friction. Of course the ideal arrangement would be to have individual drives—but try to get motors *now!*

As you know, our beaming room is located in the same room with quite a number of looms. To make the weaving run properly it is necessary to use a higher relative humidity than is necessary or desirable for beaming. We have recently installed some chromium-plated expansion combs, replacing the older combs which had become very rusty. The results are most pleasing. The yarn and the cloth need the humidity but the machines do not, so any part that can be made rust-resisting will definitely last longer.

Give my regards to the other second hands.

Your friend, JOHN

An Old-Timer Says—

(*Continued from page* 105)

use. One thing we can assure you is that if you will make yourself use the system for one month, you will catch yourself using words in your conversation that you have never used before and then you will be so pleased and surprised with the results you are getting you will not need any more urging to get you to continue the system. One man remarked that he would not take five thousand dollars for the benefit he has derived from using the system. He also says that his wife was the first to discover a change in his general conversation at bridge parties and when they were otherwise in the company of other people. Remember, fellows, you will not have to make any effort to remember the words or when to use them, because as ideas form in your mind the words will automatically come out as a vehicle to express those thoughts.

When you are talking with one of your operatives, you can judge by the words he uses whether he is educated or not, can't you? Well, have you ever stopped to realize that your employer or some executive you are talking to can judge *you* in the same way?

Remember, a man may be a college graduate and still not have at his command a vocabulary to express his thoughts properly.

Christ Jesus was our greatest teacher. To Peter and Andrew, casting their nets into the sea, he said, "Follow me and I will make you fishers of men." He sent his disciples and the 70 out into the world to carry his message. Before sending them, he gave them a course of training in how to approach men. He preached meekness of spirit but boldness in action. Now wouldn't you consider that sound reasoning to a man who today is confronting the problems we are up against in the textile business?

We must be considerate of the other fellow's point of view regardless of our own. That is broadmindedness, that is unselfishness, that even gives you a feeling of superiority over the other fellow when you realize you can control those emotions better than he can, and you *are* superior to him.

We have recently read a book by a Dr. Henry Link, Ph.D., who of course is a highly educated man, but he says that when he took up the work of a psychologist he found he did not possess the proper vocabulary to convey his thoughts to many of the patients who came to him.

Therefore, do not get the impression that OLD-TIMER'S system is intended for the uneducated man alone. Let us urge you to give it a fair trial and you will then see for yourself how fascinating and instructive the system really is.

Old-Timer urges each one of his readers to get out the topical cross-index of the articles published in "Cotton" during 1942. You will find it just inside the front cover of this issue. Study the explanation on the first page. If you're not using it now, you should do so in the future.

Seems like *everybody* "came from Missouri"

—especially textile manufacturers, when the talk turns to starches or gums . . . But Corn Products Sales Company *welcome* this "show me" attitude. For the uniformity, cleanliness and consistent high quality of Corn Products Sales Company starches and gums put them way "out in front".

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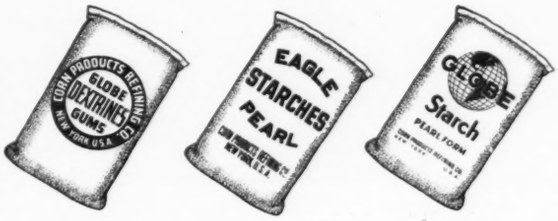

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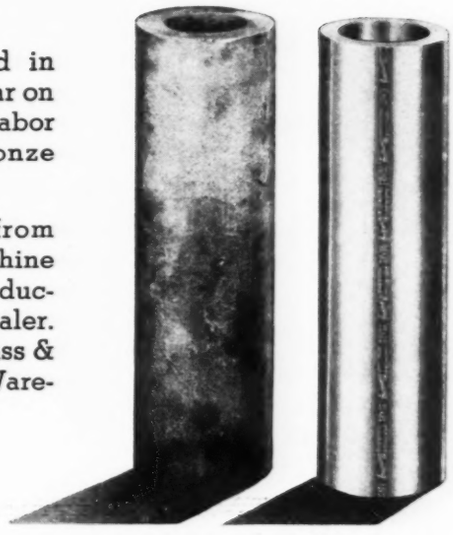

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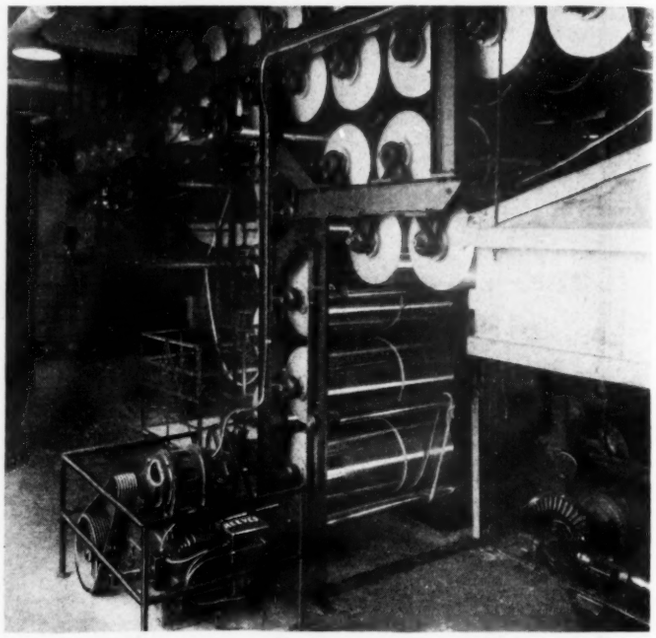

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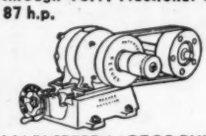

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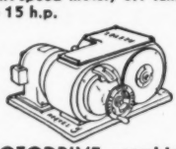

MOTODRIVE—combines motor, variable speed drive and gear reducer (if needed). Speed range 2:1 through 6:1; to 10 h.p.

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GENERAL ECONOMIC, MANAGEMENT . . .

3. MILL NOTES—Special bulletin issued for Southern Mills.—UNITED STATES TESTING CO., Hoboken, N. J.

4. HOW FACTORING CAN INCREASE PROFITS—Describes how factoring works out in keeping clients' capital liquid and attitude of factor toward shocking credits, including typical balance sheet.—COMMERCIAL FACTORS CORP., New York City.

PLANT AND PLANT MAINTENANCE . . .

101. STEWART FENCES — Illustrated catalog which is a complete text on the subject of fence for industrial uses.—STEWART IRON WORKS COMPANY, INC., Covington, Ky.

102. "TANK TALK"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said.—R. D. COLE MANUFACTURING COMPANY, Newnan, Ga.

104. FENCE FACTS—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence.—PAGE FENCE ASSOCIATION, Bridgeport, Conn.

105. DULUX — THE WHITE FINISH THAT STAYS WHITE—New book describing the new tenpoint finish for factory walls and ceilings, the finish that stays white, stays cleaner and stands repeated washing.—E. I. DU PONT DE NEMOURS & CO., Finishes Division, Wilmington, Del.

106. THEY STAY BRIGHTER LONGER—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request.—GENERAL ELECTRIC COMPANY, Dept. 166, Nela Park, Cleveland, Ohio.

107. FINNELL SCRUBBERS — Illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines.—FINNELL SYSTEM, INC., Elkhart, Ind.

108. RIHCO TYPE B HUMIDIFIER HEADS—Bulletin describes new atomizers with construction lessening air consumption. — ALDRICH MACHINE WORKS, Greenwood, S. C.

111. SUPPLY, MAINTENANCE AND REGULATION OF HUMIDITY—General catalog of humidifying and air-conditioning devices including humidifiers, controls, atomizers, sprayers, etc.; also, lap weight indicators for picker room.—AMERICAN MOISTENING CO., Providence, R. I.

112. ROBBINS FLOORING—Outstanding installations of flooring including hard maple for industrials with textile and general photographs. — ROBBINS FLOORING CO., Rhinelander, Wis.

114. HARD MAPLE FLOORING—Featuring closeup of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for architects, builders and others when considering flooring grade requirements.—MAPLE FLOORING MFRS. ASSN., Chicago, Ill.

115. ATOMIZER HUMIDIFIERS—Recent issue of "Parks' Parables" on atomizer method of humidification. Bulletin 1140 — PARKS-CRAMER CO., Fitchburg, Mass., and Charlotte, N. C.

119. HANDBOOK OF MAGNESIUM ALLOYS—48 page booklet on constitution, properties, magnesium and alloys including working and machining. Data sheets also available to fabricators.—AMERICAN MAGNESIUM CORP., Cleveland, Ohio.

120. SCALES FOR THE TEXTILE INDUSTRY—12-page book illustrating modern, automatic-indicating scales for all requirements of the textile industry.—TOLEDO SCALE COMPANY, Toledo, Ohio.

123. THE RIGHT PAINT FOR YOUR PLANT—Illustrated booklet on paints for mill interiors, exteriors, mill villages.—U. S. GUTTA PERCHA PAINT CO., Providence, R. I.

124. THE PAINT OF TOMORROW, TODAY—Bulletin describing one-coat flat wall paint. Also other painting information.—DEVOE AND RAYNOLDS CO., INC., New York, N. Y.

POWER TRANSMISSION, MOTORS, BELTING, LUBRICATION . . .

202. TEXTILE MOTORS—Bulletin on ball-bearing motors for loom drives and all textile applications.—FAIRBANKS-MORSE CO., Chicago, Ill.

207. DAYTON COG BELT CATALOG—A 32 page booklet on power drives, arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired.—THE DAYTON RUBBER MFG. CO., Dept. C-11, Dayton, Ohio.

216. GOODYEAR MECHANICAL RUBBER GOODS CATALOG—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill.—GOODYEAR TIRE & RUBBER CO., Akron, Ohio.

213. LUBRICATION—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils.—THE TEXAS COMPANY, New York, N. Y.

214. NORMA-HOFFMANN BEARINGS CATALOG—NORMA-HOFFMANN BEARINGS CORP., Stamford, Conn.

216. LEATHER BOOKLET NO. 202 — Attractive booklet illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Pickers, Harness Straps, Lug Straps, Bumper Straps, Solid Round Leather Belting, Flat Belting.—CHAS. BOND CO., Philadelphia, Pa.

217. TEXTILE LEATHERS—Catalog of complete line of leather products for looms, condensers, gill boxes, combs, including G & K "Hairitan."—GRATON & KNIGHT, Worcester, Mass.

222. NEEDLE AND BALL BEARINGS—Catalog 404 gives ball bearing data with data on selection of proper bearings; Catalog 22 outlines use of needle bearings, including textile uses, types, installation, lubrication and general data. Both issued by TORRINGTON CO., Torrington, Conn.

224. LEATHER BELT DRIVES — Clear, concise non-technical descriptions of short-center pivoted motor leather belt drives with easily used drive selection tables, other pertinent data. — SOUTHERN BELTING CO., Atlanta, Ga.

225. BRONZE BEARINGS—44 page catalog of standard sizes of textile and industrial bearings, graphited oil-less bearings, bronze bars, babbitt metals.—THE BUNTING BRASS AND BRONZE CO., Toledo, O.

227. MULTIPLE GROOVE V-BELT DRIVE DATA BOOK—Complete book showing many drive combinations for easy selection with engineering information for figuring special V-Belt drives. No. 915.—ROCKWOOD MFG. CO., Indianapolis, Ind.

228. MOTOR SWITCHES AND STARTERS—Bulletins, covering Combination magnetic switch, mercury-button limit switch, magnetic motor starter, limit switch with snap-action.—GENERAL ELECTRIC CO., Schenectady, N. Y.

230. PRINCIPLES OF TEXTILE MILL LUBRICATION—Booklet giving specific lubricating problems and data on practical textile operation, including advice on uses of various oils and greases.—TIDE WATER ASSOCIATED OIL CO., New York, New York.

231. V-BELT ENGINEERING DATA BOOK—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. — MANHATTAN RUBBER MANUFACTURING DIV. of Raybestos-Manhattan, Inc., Passaic, N. J.

232. SKF INDUSTRIES SPHERICAL ROLLER BEARINGS—36 page catalog on bearing applications and selection, also time saving computations.—SKF INDUSTRIES, INC., Philadelphia, Pa.

235. JOHNSON LEDALOYL BEARING BRONZE—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings.—JOHNSON BRONZE COMPANY, New Castle, Pennsylvania.

236. LEATHER BELTING CALCULATOR—Handy and attractive calculator for determining belt speeds, horsepower per inch of belt widths, etc., will be sent free on request.—J. E. RHOADS & SONS, Philadelphia, Pa.

237. FAFNIR BALL BEARINGS FOR THE TEXTILE INDUSTRY—Outlining the applications and advantages of ball bearings on textile machinery.—FAFNIR BEARING CO., New Britain, Conn.

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240. REEVES VARIABLE SPEED CONTROL—Catalog G-397, 130 pages, containing numerous illustrations and examples of variable speed control equipment applications in textile industry.—REEVES PULLEY COMPANY, Columbus, Ind.

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Continued From Page 117

418. BRIEF SAGA OF THE RING TRAVELER—Interesting history of development of ring spinning in connection with cotton manufacturing. — NATIONAL RING TRAVELER CO., Providence, R. I.

417. PRECISION WINDING FOR SILK AND RAYON YARNS—Describes the new No. 50 Leesona Winder and all attachments that are used for silk hosiery threads and rayon yarns. — UNIVERSAL WINDING CO., Providence, R. I.

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KNITTING . . .

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SEWING MACHINES . . .

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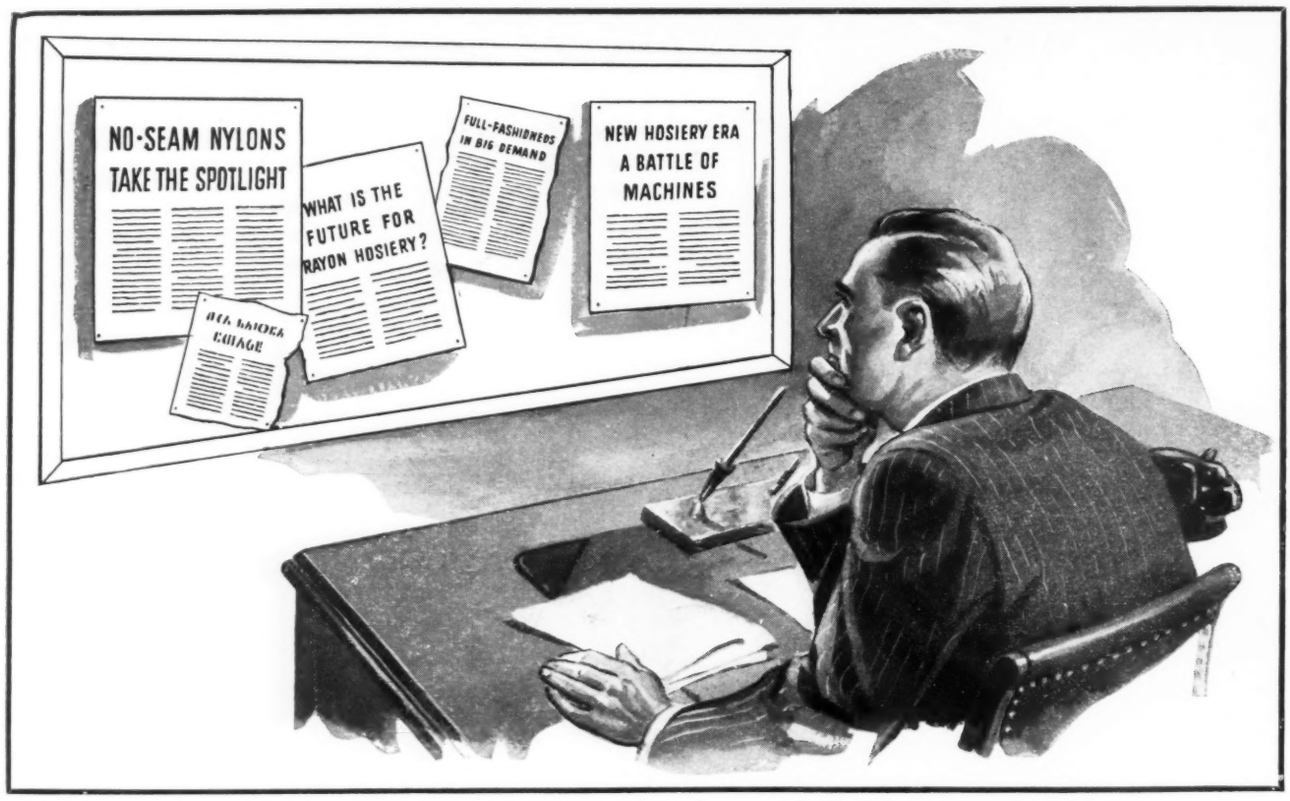
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We in the hosiery industry have been fortunate indeed in having had this indication of trends our post-war business is likely to follow. Although both the new developments just prior to the war and the further improvements which have been made during the past year have been temporarily "filed" out of wartime necessity, they are certain to create new style appeal and consumer demand . . . and they will set up future competition on a scale far keener and more intense than we have ever known. With this in mind, far-sighted mill men are already perfecting plans for post-war operations along lines that will assure widespread acceptance and demand for the products of their mills.

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KNITTING SECTION

Where to, Now?

By Earl Roberts

FULL-FASHIONED hosiery manufacturing has certainly had its share of the effects of war, in more ways than one. The increasing manpower shortage is taking its toll in these mills. The author, a practical mill management executive, here cites the need in this direction. His next article, in the January issue, will describe his own proven methods of training girls as full-fashioned machine operators . . . . . .

WHERE to, now? And, without reservation, we mean just that, for it is an extremely vital question facing every manufacturer of full-fashioned hosiery, barring none. It is a question of such great magnitude that everything else pales into insignificance before it, for who can deny but that this business is confronted with the greatest crisis it has been called on to solve since its infantile growing pains of 25 years ago?

Where to, now?—we ask again with emphasis and an eye cocked to the future. There is no sense in trying to evade the issue, there is no easy way out as there might be in other difficult circumstances — and the peculiar part of the situation is that the big ones and small ones are affected alike; the big ones probably more so because of a larger investment in machinery and equipment that it is becoming more difficult day by day to keep in operation due to the lack of the thing most needed: skilled help.

Of course, this same problem is facing other non-essential industries—this ever-growing shortage of man power that takes time and money to teach the fundamentals of a trade in which years are required to become really efficient. Efficient operators are becoming scarce at a rate that bodes no good for the industry and spells nothing but trouble ahead which seems so near as to make the job almost impossible.

Although there are some mills that have been hard hit in other departments, we must not forget that men almost exclusively have operated full-fashioned machines since they were invented, except for a few isolated cases here and there, so that it is here that the pinch is the greatest. In past years there have been some who tried to use women on full-fashioned machines for various reasons we shall not discuss here, but it seems they did not meet with much success. At the time, it was not a necessity, and many people scoffed at the idea—but under present-day conditions and those that face us in the future it may prove imperative that we all change our viewpoint as to the merits of this revolutionary step. It stands to reason that it is not only sensible, but a patriotic duty. We should not even think of competing with Uncle Sam for man power—and, anyway, he will probably see to it that nothing of the sort transpires now or in the future. The war effort comes first, so we must reconcile ourselves to the idea that we will have to take what is left over, however small it may be. The sooner this is realized, the sooner reorganization to cope with the situation can be put into effect.

Wage Competition "Out"

The freezing of wages practically eliminates the possibility of cut-throat bidding by mill against mill for the skilled help not yet gone into the armed forces or into defense industries. This is exactly what was fast taking place, whether we care to admit it or not. The routine was quite simple: a few cents more on the dozen being the expedient by which men were lured away from mills in which they had worked for years, and then coaxed back again by the same method—a game in which no mill could hope to win. Looking at a situation of this kind squarely and from all angles, it can readily be realized that a condition of this sort could lead to nothing but chaos and disaster for everyone concerned—with Uncle finally stepping in and giving everyone a good going-over and the proverbial spanking that would be justly deserved.

Just because we are in a total war is no excuse or reason why we should wage it upon each other, and if looked upon in the right light that is just about what a policy of that kind would amount to. Hurrah for me and to hell with everybody else is a very ignominious attitude when we consider what the boys on the different fronts are doing for all of the people back home—including those of us in one of the most unessential industries of all. If the Government did not think this to be true, why was that item in the paper, "Hosiery production to be cut 22,000,000 dozen"? Stockings are needed, but not the spider-web kind which makes milady's legs look as though they had been molded in a form.

Getting back to the serious problem that confronts us, it is obvious that we must obtain from some other source than usual the nimble brains and fingers it takes to keep the machines rolling, making even the small allotment we shall probably be permitted eventually to produce. As men are out, there is but one alternative: the manicured fingers of the fairer sex. While this may be distasteful to some, let

us once more face the hard, cold facts.

Only a few short months ago, many operators were out of work and plentiful, due to the big upheaval caused by the lack of suitable yarns. But today, and every day hereafter, the situation is quite the opposite and will most assuredly get worse. While there seems to be yarn to be had in certain quantities, many operators are now going into the armed forces or transferring to more lucrative jobs in defense industries—and this is just what we absolutely need for the good of the country in that it carries on the war effort at the maximum momentum. So, we ask you very frankly, if women are not employed to take the place of men on the fast emptying machines, who on earth is going to make the stockings required for winter wear, which in itself is no small item? If you will take time out to look around a bit you will find that the bare legs were quickly covered with the arrival of the first cool weather. Moreover, now that there are jobs for almost everyone there will be a greater demand for hose than ever before, the reason being inflated buying power. Eventual rationing will stop excessive purchasing, but the fact remains even now that every pair is as good as sold before the yarn comes off of the cone. A good market, a seller's market, a fair supply of yarn and a dwindling supply of skilled help—that is the predicament in which we find ourselves today.

Try to Hire Some!

If by chance there is any doubt in your mind as to the last part of the foregoing statement, you are a very fortunate person indeed, fortunate enough not to have had any inroads made in your knitting department, so we urgently suggest that you try to hire, say, three or four good operators. We feel sure you will find they are becoming as scarce as jay birds at a wild cat's picnic, and then some. If by chance you do hire some from "over the hill", the chances are they will soon look over the next hill and come to the conclusion that the grass is much greener there. They can leave you at 10:00 o'clock in the morning and be out of work only as long as it takes a telegram to reach the next mill. At least, that is the condition prevailing in our part of these United States, and pray tell us why it should be different in any other section. After all, the 48 states are in this war, and the nearer a mill is located to defense work, the bigger the drain on the help and the harder the strain on the management trying to figure out some sensible way to keep operating.

While we do not wish to take too pessimistic a view—such as the thought that full-fashioned would be done away with altogether for the duration—it behooves us to take the bull by the horns and do something before it is too late. There is such a thing. As a number of reliable, skilled operators undoubtedly will be left in each plant, these few must be used as the nucleus for building a new organization, something far different from what could have been envisioned at this time last year. Then it would have been a phantasy, something impossible—now it is a stark reality, one that is not too pleasant to contemplate.

Still, if it is possible to teach women and girls to weld, make planes, run lathes and do numerous other jobs heretofore done by men, why can they not be taught to operate knitting machines under the guidance of an old and efficient operator? Of course it is going to cost money, certainly there is going to be a drop in production at the outset, most assuredly it will be a most trying period to go through with nothing but discouragement as a reward for awhile, but it will be either something of this sort or end up by getting out the grease and covering up most of the machines until the last shot is fired—make no mistake about it. Let us not lull ourselves into a false sense of security with the thought that a miracle will happen to permit us to continue business as usual in the same old way.

So, we get back to the idea that girls will have to be the future source of supply for knitters. Toppers, thrown out of work by the advent of the round heel, would be ideal material to start with where they could be obtained. Their years of experience in handling hose, the understanding of some of the functioning of a knitting machine, would go a long way in making them easier to teach. After a short period of learning to turn welts, they should progress rapidly. A good topper with the right instruction and leadership should be able to operate a machine within three months. Of course her knowledge would go only as far as the running off of sets; mechanical failures necessarily having to be fixed by a male employee.

Another reason why toppers are preferable is the fact that they no longer look at a knitting machine in awe, as a complicated piece of machinery that somehow manages to make stockings. This is very important, because many men have been amazed at their first sight of a knitting machine, wondering within themselves how on earth anyone could ever learn to manipulate such a contraption. In fact, we have seen numerous toppers who probably would have made better operators than the footer they were working for—so we can place them at the top of the list of desirables.

The next best place to choose from would be more or less a gamble, just as in trying to select boys to learn to knit. Offhand we would say that girls just out of high school would be better than girls who had already learned some other trade. There would not be as much chance of their returning to their first love because of a better wage scale. Too many of these girls would no doubt give it a whirl just to see what it was like—whereas the girl just out of school, having no other trade, would be more apt to stick it out and make something out of it.

There is no doubt but that the rejections will run as high as 50 per cent after the girl has been employed for as little as two weeks. The girls must necessarily be weeded out for inability as quickly as possible or the loss is going to be higher than it should be. This is where intelligent management must assert itself, be on the alert and on the job every minute of the day. Rocking chair supervision will end up in the red, and, it would be a waste of time even to try to put on girls, let alone the money that would go out never to return. These girls are not only going to need the best advice of the experienced operator, but instruction from some

responsible person in charge who knows what it is all about—otherwise the project will fail. Everyone concerned must get into the fight and stay in there, for it will be no picnic; it will be nothing but a lot of hard work that will take plenty of perseverance—but it can be done.

In the next issue of COTTON we will describe a method of going about it from start to finish. Maybe we are wrong, but we think it can and will be done—and sooner than a lot of people expect.

Underwear Knitting and Cutting Waste—How Much is Correct?

SOMEONE in an underwear mill will say, offhand, "There is too much waste". And yet, under certain conditions, for anyone to say what the waste should or should not be, would not be a practical thing.

Discussing the question of the percentage of seconds in a mill at one time, the foreman of the inspecting and folding department made the statement, "The seconds are too high". The superintendent was asked, "What should the percentage of seconds be?" His answer was, "I don't know." That was a sensible answer, and made by a man of much more experience and mature judgment than that of the foreman of the folding department.

That superintendent's answer can just as readily and appropriately be applied to the question, "What should the waste percentage be?"

The foregoing is, as it were, a preamble or approach to the subject of cutting waste. The point we wish to make here is that, in the first place, it is practically impossible for anyone to specify correctly just what the waste should or should not be for different mills. This is for the reason that there are many different kinds of conditions which have to be taken into consideration.

One must consider different kinds of work, different localities, different kinds of employees, different ages of the mills, whether having just started, being young, or having run a few years, having had time to become fairly well established. I was going to write "fully established", but that would mean perfectly established, and we know that there can be no such a thing.

All mills have their imperfections, some one thing, others something altogether different. Then, again, we have another difference, to wit, the mill having run too long, being too old, not longer able to function even as well as one too young, or having just started.

There is every chance in the world for the young mill to develop, that is, provided it is new, and not some junkheap gathered together and called a new mill, because it has just arrived in the town. In place of calling it a new mill, it might be more appropriate to call it a "Museum of Antiques".

But we have one more difference to consider, that is, what kind of personnel the mill affords. This last sifts down to the management. We have then seven kinds of differences. Now having all these before us, we can readily see that they will make all the difference in the world as to the final results obtained.

My experience has taught me that each and every mill has its own peculiar trouble or peculiarities; for the reason that each mill has its own individuality, expressing therefore its own peculiar characteristics exactly in the same way that individuals do.

I am now gong to make a statement with which some underwear knitting mill men will not agree. But there is an old saying, "Truth is stranger than fiction". The statement to which I refer is this: for mills who buy their cotton yarn, the loss from the invoiced yarn to the finished cloth ready to cut is greater than the percentage of cutting waste on the cloth cut. This of course implies that the knitting is good, also the method of cutting, styles and so on would have to be considered in this connection.

To find the loss from invoiced yarn to the finished cloth, ready to lay up on the cutting table, is most instructive and besides a very interesting thing.

First, from the invoiced yarn to the net yarn received; second, from the net yarn received to the wound yarn; third, direct from the invoiced yarn to the wound yarn; fourth, from the wound yarn to the knit cloth; fifth, from the invoiced yarn to the knit cloth. This last-named step is of course the thing which we did want to find out, viz., how the wound yarn ready to knit compared with the invoiced yarn in the case paid for; second, how much cloth is obtained or produced out of the case.

The cloth, when knit, is ready to go to the dye-house to be bleached or dyed. This cloth should be very carefully weighed and this weight compared with the knitting room weight of the cloth. When the cloth has been processed, the drying should be checked, for the reason that many times the cloth is not fully dry, having moisture, which adds to the weight. It is obvious that the weight of the cloth would not be correct. The cloth being dry, it would be best to spread it and let it lie at least overnight and then weigh it. This is done in order that it would be of the same moisture content as when it came off of the knitting machines. The weight of the finished cloth deducted from the weight of the invoiced yarn paid for would give the percentage of loss.

This loss in many instances will

be found to be greater than the cutting waste on the cloth cut, it being understood of course that the knitting is good.

The cutting waste of course will be more where armholes and shoulders are shaped out tailored fashion. But take regular men's and boys' union suits where the armholes and shoulders are cut straight, the cutting waste need not run over the loss made from invoiced yarn to finished cloth.

Let us proceed to find out. Weigh the case of yarn to make the test on, then open the case, taking out all the cones of yarn, stripping them of all papers. First having weighed an empty truck in which to put the cones of yarn without any paper, then put all the papers back into the case, weigh the case with all the papers together, deduct the weight from the gross of the case as found. Now weigh the truck having the cones of yarn in it, deduct the weight of the empty truck. This weight of course should agree with the net weight as found by deducting the case with all the papers in it from the gross weight of the case before opening it at all. This method of course is a double check on the weighing.

Now an ideal way is to weigh out enough empty cones to hold the yarn of the case weighed, then cone the yarn. When the cones on which the yarn came on are all empty, weigh these and deduct their weight from the weight of the yarn as found of the cones as it came out of the case. This will give the weight of the actual yarn ready to knit. Weigh the newly wound yarn, deducting the weight of the empty cones used. This will give the loss in winding the yarn. Deducting the weight of the coned yarn from the invoiced yarn, will give the loss from invoiced yarn to the newly wound yarn ready to knit.

Now knit the yarn all up on one style of cloth, first having made out a knitting order according to the average size sold. When the yarn is all knit down to the few pieces, an ideal way is to weigh out a couple of empty cones, wind the pieces of yarn left over, weigh these deducting the weight of the empty cones on which the pieces of yarn were wound.

Weigh the cloth, adding the weight of that little yarn to it, now deduct this weight from the weight of the rewound yarn and we have the loss sustained in the knitting. Then deduct the weight of the knit cloth and those pieces of yarn left over from the weight of the invoiced yarn as paid for; we have then the total loss sustained from invoiced yarn to knit cloth.

Now I will make the statement that there has been more guessing made, in connection with such things as here outlined, than work done in obtaining the actual facts in the case. A thorough knowledge of the facts as outlined can't be obtained by making one or two tests, but really requires an exhaustive number of tests, especially where numerous styles of goods are made with a large variety of yarns used. Each one is materially different in nature from the other. Each style, then, it readily can be seen, should be tested out.

There is a great satisfaction in knowing that one knows what he is supposed to know, and to know that there is no guesswork about it.

The cloth being ready to go to the dye or bleach house should be weighed and this weight compared with the knitting room weight. When it is finished ready to cut, then weigh it, first making sure that it is of the same moisture content as when taken from the knitting room. Deducting the weight of the finished cloth from the weight of the knit cloth will give the percentage of loss in the processing. Now deduct the weight of the finished cloth from the weight of the invoiced yarn as paid for. This will give the total loss from yarn as paid for to finished cloth. This loss I have found in making these tests over and over again to be more than the cutting waste percentage. In fact, on some styles cut it is nearly twice as much.

When making these tests, in cutting the goods it is very instructive, also very interesting to keep the different kinds of cutting waste separate, also keep all of the ends of the rolls separate. Keep all pieces cut off because of ends out in case it should be two-thread work, waste cutting the cuffs, cutting the collarette, this leaves the regular cutting waste. Keeping the different kinds of waste separate will give a knowledge of where the waste is coming from, and where made. Now put these different items of waste together into one item and weigh, adding this weight to the weight of the cut dozens. This is done in order to ascertain the percentage of the cutting waste of the cloth cut.

It being practically impossible to cut the cloth all up on that order, there being some cuff-cloth, body or sleeve cloth left over. This cloth left over should have the percentage of loss from yarn to finished cloth figured and added to its weight. This will put it back to the weight of gross yarn. Now deduct this from the invoiced yarn minus that little piece of yarn not knit up and we have the actual amount of invoiced yarn used.

If the total weight of the cut dozens is deducted from the weight of the actual yarn used, the difference will be the total loss from invoiced yarn to the net weight of cut dozens including the cutting waste. Now divide the gross yarn used by the number of dozens cut. This will give the weight of gross yarn per dozen, then divide the weight of total dozens cut by the number of dozens cut. This will give the average weight of cut dozen. Deduct this from the weight of gross yarn used per dozen. We have then the total loss per dozen from invoiced yarn to cut dozen.

New Women Employees

Here are some of the reasons why the new woman employee should be treated differently:

1. A woman employee is more likely to act on her feelings and impulses.
2. She is more emotional.
3. She has less self-confidence.
4. She is more sensitive.
5. She has less physical endurance.
6. She is more susceptible to praise.
7. She is more inclined to be petty.
8. She is more patient.
9. She is interested more in the immediate present than in the future.
10. She is more interested in pay than in promotion.
11. She dislikes responsibility.
12. She is more conscientious.
13. She is likely to expect more consideration because of her sex.
14. She is better suited to repetitive work.
15. She is more affected by her surroundings and working conditions.
16. She is less conscious of hazards.

—*"Management Information", Elliott Service Co., Inc.*

Now THEY come first later on you will

In this period, the needs for the armed forces come first, because our first task is to win the war. An increasing proportion of Standard-Coosa-Thatcher's output is going to war, which leaves less for the civilian consumers. This meets with everyone's approval.

On the day when peace dawns and the pent-up needs of those at home can be filled, the same uniform high quality yarns which are Standard's tradition will flow back into normal channels.

Meanwhile let us all work harder, buy more bonds and collect and deliver scrap.

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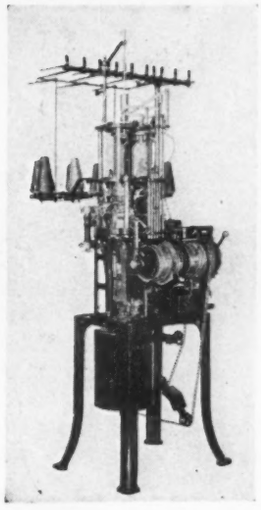
KNITTING KINKS

The Links-and-Links Knitting Machine



Article 22 in a Series on the Komet and Links-and-Links Machines . .

TO DATE we have discussed upper and lower cam sections and transfer sections for Links machines and called attention to such parts and adjustments which differ from the plain two-feed machines.

For the remaining articles in this series we shall consider only such parts and adjustments which apply to Links machines, or which actually *make* the Links machine. Since there are quite a number of parts and assemblies we shall endeavor to discuss these by Plate number as shown in the Komet and Links-and-Links Parts Catalog, beginning with Plate 38-B.

Plate 38-B

This plate is listed in the Komet parts catalog as the upper bed plate assembly, which includes the top cover plate (101474), ball race housing (102302), upper bed plate (102291), cylinder carriage (102300), the upper cylinder and the verge.

All of these parts are identical with those used on plain two-feed machines except the cylinder and verge tube (303836), the latter two being considerably longer than on plain machines. The additional length of the cylinder is necessary to accommodate both selectors and sliders.

One of the many important tasks in building a Komet or Links machine is *perfect centering* of the upper cylinder in relation to the lower. This is accomplished by spotting the ball race housing (102302) and placing two dowel pins in the upper bed plate when the housing has been properly set. Once the dowel pins are placed, the complete assembly can be removed and replaced without danger of getting the two cylinders out of alignment. If an upper cylinder should develop a slight wobble it can usually be overcome by making use of the adjusting screws (15298) and headless screws (K-2550). Rough handling in shipping may be the cause or it may be caused by headless or adjusting screws working loose. However, thanks to the fine work done at the factory, such cases are the exception, not the rule.

Upper cylinders seldom get out of alignment. Sometimes fixers get careless when for any reason it becomes necessary to remove the upper cylinder assembly and fail to clean the upper bed plate and the underside of the ball race housing thoroughly before replacing same.

Small particles of lint or other foreign matter can throw the cylinder out of line. This is especially true on Links machines; if we consider the length of the upper cylinder we can readily understand how a slight variation caused by foreign matter under the ball race housing would be greatly multiplied at the extreme lower end of the cylinder.

Re-assembling a machine which has been torn down is one thing: throwing it together in a hurry is quite another story, one which will *always* have a sad ending. Doing a job right pays dividends in better production and less bad work; carelessness pays off, too, but in *needless headaches.*

Keep in mind also that in addition to being in proper alignment, Komet cylinders must revolve in unison without any undue lost motion between them. Split gears are provided on the vertical drive shaft for both upper and lower cylinder gears, to overcome this trouble when and if it arises, as your Komets grow older make use of this adjustment for it was put there for this very purpose.

Very often we find a Komet or Links machine that will give a little trouble in transferring, due to the upper and lower cylinders not working in unison; ordinary wear on the various gears may slightly retard the upper cylinder. Here also we have a very simple adjustment on the top pinion (101363) which makes it possible to advance or retard the upper cylinder so it can be timed with the lower cylinder.

Some of the things we have called attention to in connection with the upper cylinder may seem more or less simple, however, we find from actual experience that these are the very things which are usually overlooked until trouble actually develops, so why not prevent trouble by doing now what we *must* do later on?

The Verge

In a previous article we discussed the verge and its adjustment. However, in checking up on what we said we find that most of our remarks concerning its adjustment were made in connection with broad rib knitting; any information given will also apply to Links machines. Correct verge timing in relation to the upper cylinder also affects the transferring operation, and since this is very important on Links machines we shall comment further on verge settings.

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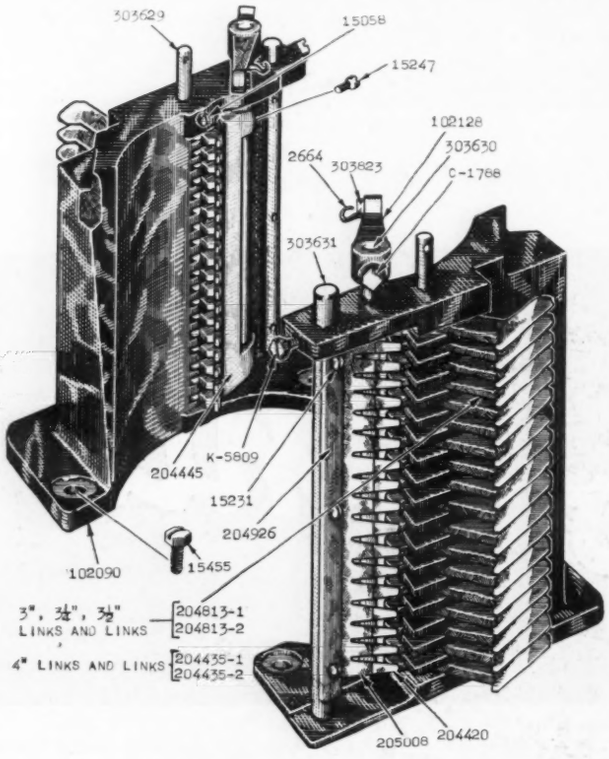

The upper cylinder is provided with a recess in its inner lower surface; the verge key (203117) fits into this recess providing an adjustment which permits advancing or retarding the verge so it may be kept in proper alignment with the upper cylinder walls. When the verge is properly timed, the verge bits should be exactly in line with the *pointed centers* of the upper cylinder walls. Here is one place where *pretty close* means little or nothing; the setting is either right or wrong. If we stop to consider for a moment just what takes place during the transferring operations, we can readily understand just why this setting must be accurate.

We have seen a few cases where machine fixers advanced or retarded the upper cylinder because needles being transferred up or down would not be exactly in the center between the verge bits when they should have first made sure that the verge was in line with the upper cylinder walls. In order to advance or retard the verge it is of course necessary to remove the upper cylinder assembly from the machine, then remove the verge from the cylinder, before we can get to the verge adjusting screws which permit advancing or retarding the verge in relation to the upper cylinder. This is not a difficult task but it does require some *time*, and no doubt this is one of the reasons why fixers refrain from changing the verge setting only as a last resort—when they can't *get by* any other way. Again, we suggest doing in the beginning what you will have to do in the end. Lost motion between cylinders, verge out of alignment, loose verge keys, etc., are conditions which cannot be tolerated on Komet or Links machines if we expect them to run, and we do mean *run*.

The remaining parts shown on Plate 38-B require very little attention. Let's not forget that a few drops of oil at regular intervals in the ball race and in the vertical drive shaft bearing in the upper housing are important. Make sure that the stitch cam operating ring moves freely, and remember that the selectors and sliders in the upper cylinder will serve better if they are lubricated regularly, but moderately.

Plate 39

The one important assembly on Plate 39 insofar as Links machines are concerned is the leveling cam (204433) and assembled guide bracket (102113). This device supplies the means for lowering the selectors to operating level. It is operated by cams on the quality drum, push rod and lever action. The leveling cam when in operating position makes contact with the "A" or uppermost butts on the selectors and lowers *all* selectors so that the butts used for transferring (1 to 17 inclusive) will be in line with their respective selector fingers.

The leveling cam assembly must have free up and down movement and should not have excessive side play. The latter can be controlled by adjusting screw (15252) which has a brass plug in front of it; the plug rides against the column using it as a guide. The spring (303805) raises the assembly to inoperative position when it becomes necessary to stop down transferring. Lowering the selectors to operating level is but one of the steps necessary in pattern making; we shall go into this further a little later.

Plate 32

A reproduction of Plate 32 is shown herewith. It is known as the selector lever guide bracket. The upper view shows the outside of the bracket; here we see the rear ends of the 18 selector fingers which make contact with the pattern pins in the pattern drum. The lower view shows the inner side of the bracket; here we see the operating ends of the 18 selector fingers which make contact with the selector butts, lowering them according to the pattern pin layout in the pattern drum.

The selector lever bracket is a very compact unit, expertly designed and made. It is provided with ample adjustment facilities. The action of the selector fingers is in close to the cylinder when certain selectors are to be cammed down for transferring and out when sliders are to remain in the upper cylinder. Pins placed in the pattern drum to correspond with individual selector fingers provide the inward movement for the selector fingers, and the finger springs (205008—204420) bring the selector fingers out of action when the operating end falls off the pins in the pattern drum.

The finger springs are a comb-like arrangement, one prong resting against each selector finger. The spindle (303631) can be adjusted to increase or decrease the tension on the fingers.

The selector finger control bar (204445) provides the means for moving all selector fingers out of operating position, simultaneously, when going onto the heel and when patterning is completed before the toe is begun.

This complete assembly can be removed and replaced without disturbing any adjustments. It serves exceptionally well and is practically trouble-proof. Ac-

Firelight glamour . . . Every woman knows that the captivating loveliness of her stockings is in the texture of the fabric. Every hosiery manufacturer knows that good needles are indispensable in achieving even texture in full-fashioned knitting. Keep your knitting machines young and effective with TMW Needles. . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

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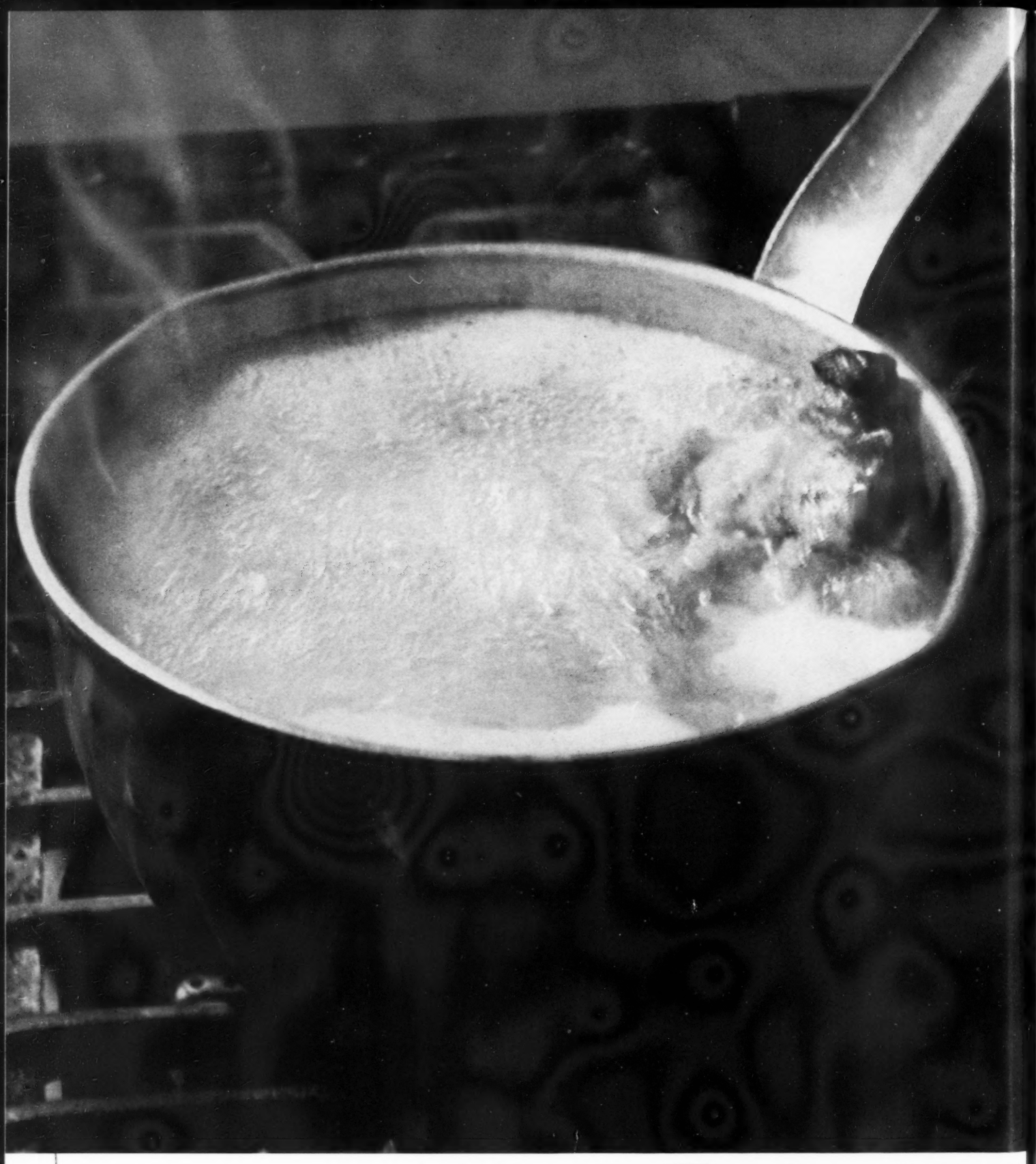

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cidents to sliders or selectors may cause a finger to be broken, and we have seen one or two broken finger spring prongs. Aside from these minor things we can forget that this assembly is a part of a Links machine.

In our next article we shall consider Plate 31 and discuss pattern making.

K. O. METZ

Examining Rayon Hose

EDITOR COTTON:

I would be very much interested in seeing in your "KNITTING KINKS" department some discussions with regard to the examination of rayon hosiery.

Any reader could discuss this on the basis of his own experience and practice, that is, whether he is making circular knit or full-fashioned. I would appreciate it if each answer would indicate which type is being discussed.

In such a discussion, I would be interested to know what is the best system of payment on a piece-rate basis for the examiners, and would also like to have discussion particularly on any points, in this operation, that involve changes of procedure as compared with the previous practice when handling silk or nylon stockings.

CONTRIBUTOR NO. 7397

Streaks in Hose from Improper Mercerizing

RECENTLY the superintendent of dyeing at a large hosiery mill submitted a pair of stockings showing pronounced light streaks in the body, with the following explanation and request:

"These stockings are made of mercerized yarn; the body is 50s/2 mercerized and the welt 36s/2 mercerized. It is noteworthy that all of our difficulty is in the body and none of these streaks occur in the welt of this style. We spin and skein-mercerize our own yarns and from the tendency of the streaks to repeat themselves at regular intervals, it appears to us that this fault is mechanical in origin. At the present time it is an important problem with us as this style is running 30 per cent seconds due to this difficulty. We shall appreciate any help you and your readers may give us on this problem."

The samples and the problem were submitted to several experienced men whose comments are quoted below:

An experienced hosiery dyer had the following to say:

"It is rather difficult to state exactly what causes this trouble since I am not familiar with skein-mercerizing machines and my opinion might be worthless, but as I understand it, the skeins are hung on arms and immersed under tension into the caustic solution. These arms revolve a few degrees at given periods to insure even mercerization. In the case of this particular hose, it would seem that the arm has not revolved, as the length of the unmercerized portion is about the length of the portion on which the skein is resting; also, the length between the light streaks indicate the distance between arms. Your correspondent states no trouble is encountered in the 36s/2 and they feel the cause to be mechanical; if this is a recent trouble, it no doubt accounts for the 50s/2 being the offender."

The manager of another hosiery mill said:

"We note that the manufacturer of this merchandise is spinning and skein-mercerizing his own yarns. The streaks on the sample are characteristic of skein-mercerizing when not properly or thoroughly mercerized. I believe the streaks are caused by uneven mercerization. In skein-mercerizing it has been found that the caustic solution settles to the bottom and the skeins in process of mercerizing while making successive dips into the mercerizing bath, pick up more caustic at times and the yarn is not uniformly mercerized.

"Then, too, if the skeins are not thoroughly washed after mercerization, uneven condition or streaks will show up when dyed.

"Finally, it looks to me as though someone has been trying to rush a mercerizing job with rather obsolete equipment."

The head of a southern mercerizing firm submitted the following comment:

"The hose you sent to us plainly shows unmercerized spots in the yarn, possibly due to tight lease band. The pattern in the hose gives every indication that there is one spot in the circumference of the skein that is not being penetrated. If this mill will be a little more careful in putting their skeins on the mercerizing machine, I am sure they can eliminate this trouble."

The manager of another mercerizing plant took one of the socks and stripped and re-dyed it, and made the following comment:

"I am sending you the sock which I stripped and re-dyed, and you will note the imperfections are still very plain. These imperfections are not characteristic of regular tiger stripes. As a matter of fact, you seldom hear of a skein mercerizer having trouble with tiger stripes. Warp mercerizers are the ones that have to watch for this trouble due to large production. I think you are correct in assuming that the trouble is mechanical in origin, but there is no doubt that it is producing a chemical defect.

"It is a rather difficult matter to diagnose a mechanical trouble by only looking at a dyed sock; but it is very evident that something is happening at the top or bottom end of the skein where it comes in contact with the arm or poles, and it is possible that the tie band may be too tight or large. I would suggest that they see that the position on the skein is changed as they go into the acid."

All of the foregoing comments were submitted to the man who had posed the question, and subsequently he wrote us describing the solution of his difficulty as follows:

"I know you will be interested to learn that our trouble on mercerizing has been completely overcome.

"The white streaks in our stockings were there

because the yarn at these points was not mercerized. The reason for this was that our yarn was boiled off before mercerizing, and when lowered into the mercerizing liquor it can be readily seen that it is important that the liquor get into intimate contact with the cellulose of the yarn. To do this, it had not only to displace completely the water which surrounded the yarn that was left in it after the extraction after boiling off, but it also had to displace it in some tight spots in the skeins. It was at this point where we believe the failure occurred and mercerization did not proceed.

"Our test runs with dry mercerizing with a suitable penetrant have dropped our percentage of throw-outs from this cause to practically the zero point. Our mercerizing liquor is now getting into intimate contact with every part of the skein.

"I know you will be interested in this report because it increases to a small degree the total of your knowledge of processing problems.

"We are grateful for your interest and assistance throughout our difficulty."

An Open Letter to Joe Doakes

A KNITTING MACHINE FIXER

DEAR JOE:

So much has been said in the past couple of years about your ability and the things you should know about your trade as a hosiery fixer, I thought it might possibly be a good time for me to sit down and write you a personal letter, seeing as how we have been the best of friends for all of these years.

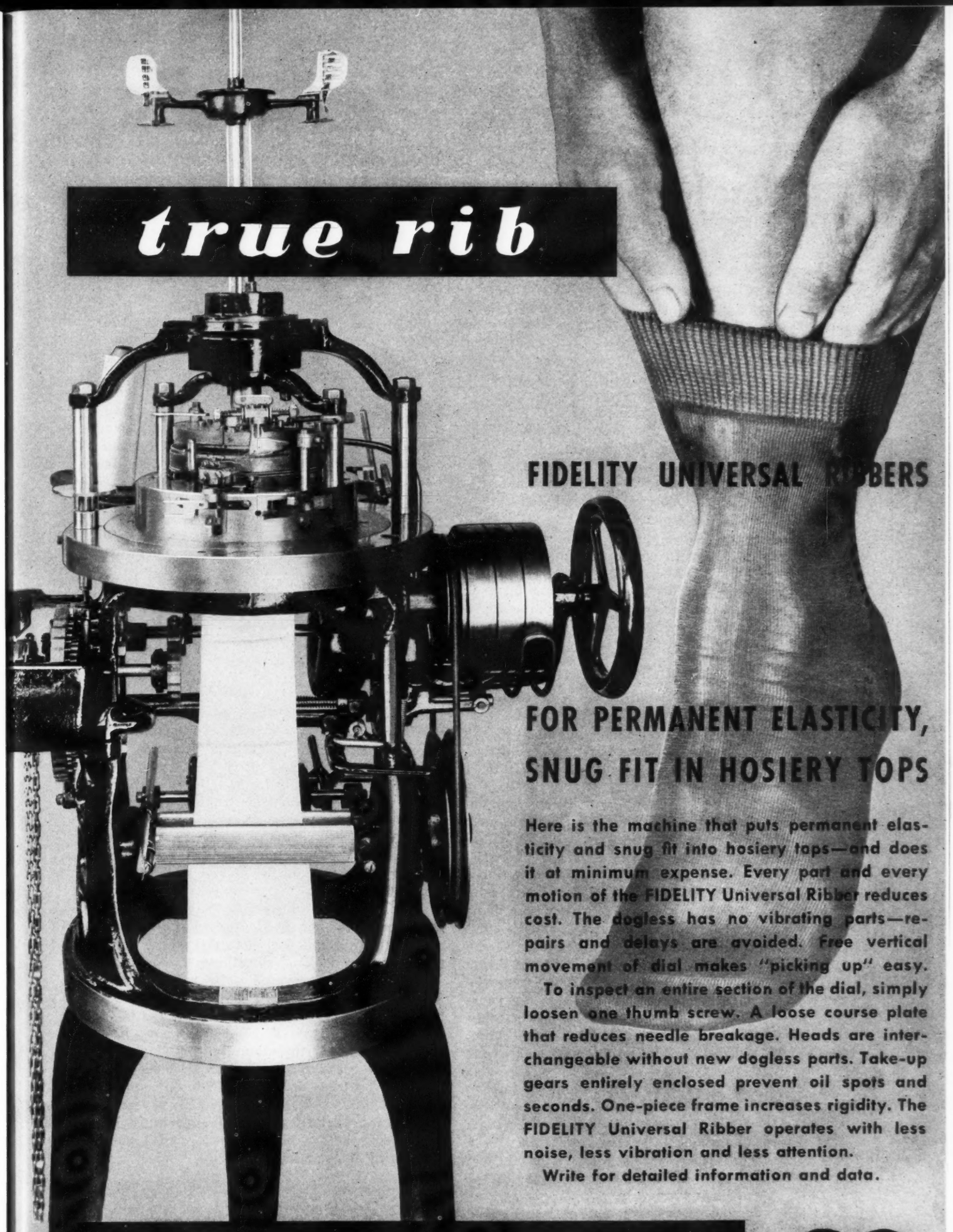
It is my intention to give you the proverbial pat-on-the-back here and there, Joe, for you undoubtedly deserve it—having the patience to put up with those knitting machines day after day the way you do; but, mind you, you had also better be ready to take a little knock as the occasion arises, because I am not going to mince words, and there is nothing like the truth to make a man stop and think, and I want you to try to understand that what I have to say is for your own good.

As a start, I am going to tell you something that is right up your alley, which is the fact it is my belief that on many occasions your real worth to the mill is under-estimated; there are times when you are taken too much for granted or as a necessary evil. If in times past you have performed miracles by a mere twist of the wrist, either through sheer luck or brilliant deduction, you are expected to display these powers no matter what the conditions may be. If by chance you do live up to your reputation, you are a hero, but, if you fail, you are a bum—one of those necessary evils. Of course, no one expresses it in those exact terms but there is a possibility that thought is dormant in more than one mind—all irrespective of what you have heretofore accomplished. But, Joe, if you stop and reflect, you should not hate anyone for these thoughts that crop up for it is quite natural when you consider the fact that you are paid to get things done, and quickly.

No doubt you have a tough job at times with things you do not understand the reasons for, such as one of the salesmen getting an order that calls for radical style changing throughout the mill or at least a dozen or more machines turned inside-out in order to make the new creation. This has probably happened to you more than once and maybe you have expressed your opinion to the salesman personally, but did you ever stop to think he might be puzzled as to why you should kick? After all, he got the order when your regular numbers were no longer salable, for fads do change, you know, so he went out and grabbed off some business which to his mind was the proper thing to do—and it was. Styles must be changed occasionally regardless of whether you like it or not. That's one of the reasons they tolerate you—and what you think about it will not alter the case one whit.

Also, please remember that the management knows just as well as you do that it costs money to change styles radically, but that has all been figured in to the extent they are not losing the money you think they are. Give your superiors credit for a little horse sense in getting orders, and meanwhile, you display a little by taking your job in stride and doing what you are supposed to do without unwarranted grumbling. Never forget for one moment that you asked for it the day you began to learn to fix, and nothing was hidden from you then. There was still the opportunity to turn back, but you stuck—maybe with the idea it would change. It changed—no doubt about that—the more you learned, the more responsibilities you assumed, and all the more was expected of you. That, Joe, is the right of management because it is their machines you have learned on and you must admit that during the process there were many times you made mistakes that cost them money.

As little as I hate to think it, maybe you are one of those fixers who have been in the business quite a spell and have gotten into a rut. Maybe you have allowed yourself to slip in more ways than one, the first of which is that you will want to disregard some of the things I am trying to tell you as a friend. Perhaps you have arrived at a point where you are fed up with it all, harboring the idea that they are working you too hard or envying the boss because he comes and goes as he pleases, which to your mind is some of the candy you should be allowed to eat. Maybe you are imbued with the idea that you are not getting along fast enough on the



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THE FIDELITY UNIVERSAL RIBBER

road to success and have decided to coast, since there seems to be no pot of gold by doing otherwise.

This is one of the worst feelings you could nurse, Joe. You are dead wrong in reckoning of this sort for there is no coasting anywhere along the line, and no matter where you happen to work, because every minute you endeavor to duck your responsibilities, no one is going to suffer for it but you. Never lose sight of the fact that there are always those right behind you who might have just a little bit more of what it takes. Some one person in this group with a little more initiative than you possess could do you a lot of harm if given the opportunity, and if you fall down on the job you are leaving yourself wide open for any kind of criticism. Your defense will be shattered because it was flimsy to begin with, due to no one's fault but your own.

Please remember one very important thing: you can't keep knitting machines running efficiently by sitting on your tool box and looking darkly at any operator who might have the misfortune to need your services. You must absolutely keep after that fabric that pops up continually or those narrowing holes which call for more skill to eliminate than the operator possesses. Otherwise, you will eventually be engulfed by all these troubles, wringing your hands in woe, with no one to blame but yourself.

On the other hand, if you are holding up your end day after day and no one seems to appreciate it, remember this fact too: when the front office is quiet, leaving you well alone, it shows they have nothing to complain about, and, as we said before, it is just what is expected of you, whether or not it suits your vanity—and what fixer doesn't have a little bit of that running through his makeup? If you did not think you were better than the next guy, you never would have fought for the opportunity to fix, and if that's not some sort of vanity, I miss my guess.

On your side of the ledger, we will assume you are a real conscientious fixer, one who can walk through the mill relaxed, well aware that everything is under control and not having to worry about the boss strolling through and being compelled to listen to operators gripe about the service you give them. They will do that, you know, but then you have probably found that out by this time, and the gist of the matter is it is their right to complain to the big boy when they think you are letting them down.

If you will just think back a few years maybe you will remember doing something of this sort yourself, never dreaming the shoe would be on the other foot some day, so there is no use of your becoming angry over it because that would only make your position more precarious.

I know it is practically impossible for you to keep all of the operators satisfied for various reasons, and the times are plentiful when it all becomes very discouraging, but this phase of it is also a part of your job—this dealing with different temperaments, this always being one jump ahead of the operator, eternally proving with your words and actions that you have more grey matter than he has.

If you are diplomatic enough to keep all of the operators satisfied, it not only proves your worth in handling men, but, most important of all, it proves that you know your machines—and if you don't know your machines, you can't hope to keep even a small percentage of them on your side, because their weekly pay checks depend more or less on your ability to do promptly the things which tend to keep a machine running to its fullest production capacity. The boss realizes all of this—never fear about that—for usually he is a real guy that has been brought up in the business and understands thoroughly your good points as well as the bad, comparing the two so as to know just what to write in on the good side of your balance sheet. Above all, never fail to give him credit for having sense enough to know your limitations—and you do have them, like everybody else.

Better still, always look at it in the light of the fact that he must have something on the ball or he would not be where he is, because mill owners do not put a man in complete charge just for fun; they weigh the capabilities of their bosses, just like your boss is prone to weigh yours.

Another thing, Joe, let's go back a few years, back to the time when you were learning to fix. Remember those extra hours you spent in the mill and how the hands on the clock meant nothing, how you would have worked 24 consecutive hours if it had been necessary?

Do you recall those lonely Saturdays, especially in the afternoon when everyone else was out having a good time at the ball game or some other pastime, while you slaved and sweated over some machine that needed doctoring?

You were more than willing to sacrifice then, but now that you have the title of fixer, what makes you think it is time to relax and take things easy, resting comfortably on your laurels?

The least number of breakdowns you have is in your favor and you must admit that sometimes, with a little additional work on your part, certain machine tie-ups would never have occurred. How about it? You must admit the mill is entitled to your every effort and whether you realize it or not there is always a better job to be had regardless of how small the mill is. It is impossible to hope for something better unless you keep pitching all the time, never letting up, for you know as well as I do the knitting mill does not exist where one should get bored for lack of something to do.

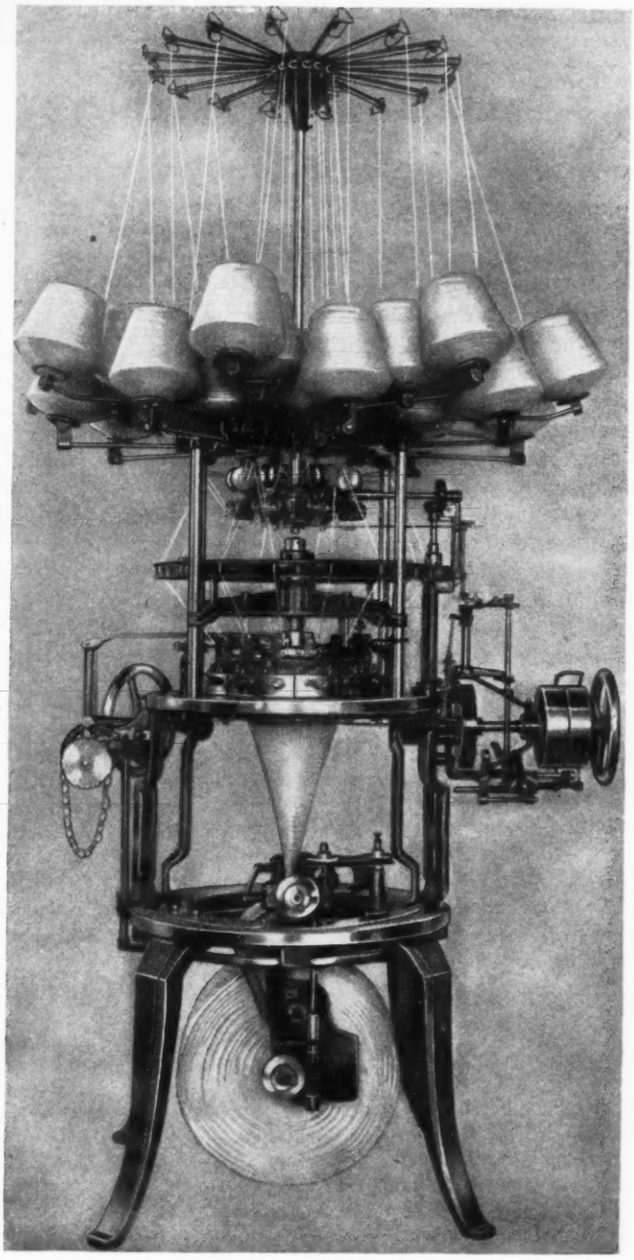
I guess we've covered quite a bit of territory, Joe, and I don't want you to get the idea that I think you have gone to the dogs since the last time I saw you. Far from it. But you know, it does a body good to hear the other fellow's viewpoint once in a while because it makes us sit back and think whether it fits us or not. If it doesn't apply to us, well and good, if it so happens that several things strike home, it gives one a good opportunity to mend the bridges before it is too late, and I guess you know what I mean by that.

Sincerely yours,

EARL ROBERTS

If you like this type of discussion, and will tell us so, we think we can prevail upon Earl Roberts to write some further letters to his friend, Joe Doakes, for later publication. Let us hear from you.—THE EDITOR.

WILDMAN MULTIPLE FEED RIB MACHINE



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TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

Hosiery Shipments Compare Well with Year Ago—Knitters Hit by Labor Shortage Causing Increased Need for Learners—Darker Shades for Women's Hosiery Coming—More Wool for Knit Goods under Government Allotment—Seamless Hose Wage Increase Recommended—Nylon Retail Prices Cut Sharply

Philadelphia, November 16, 1942

HOSIERY SHIPMENTS during the first nine months registered a drop of only 1.4 per cent compared with the same months in the previous year, indicating that this year will not see the decline that was expected earlier. Full-fashioned hose shipments have declined in that period a shade more than 21 per cent but predictions earlier were this would drop about 40 per cent so even here the drop has not yet been as severe as was contemplated. This situation may change during the last quarter of 1942 but the record of the hosiery industry under severe handicaps is one of which all may be proud. In general, declines in the full-fashioned end of the business have been offset by gains in such lines as anklets and seamless hose. Underwear manufacturers are busy but they have not been quite so active on military lines as earlier in the year so that some have been able in recent weeks to take larger civilian orders. In October the Army began to buy more actively, especially in the summer cotton types and many feel this buying will expand further in the coming weeks.

Full-Fashioned

Retail demand for women's full-fashioned hosiery for the last two months has been good and larger outlets say dollar volume has been ahead of the corresponding weeks in 1941 with indications the holiday trade will be very large. People have money to spend especially in the lower and medium brackets so that volume will be large, this being one reason why shipments of full-fashioned hosiery have yet failed to drop off to the extent earlier predicted. Some in the Government said early this year there would be a drop of 40 per cent with the industry at the end of this year being expected to operate at about 60 per cent. Some sections of the industry are down that far but data for September show these are off only little better than 16 per cent. However, manufacturers are confronted with scarcity of yarns and with the manpower problem which is becoming worse. Numerous managers state now they think it better to try to run two shifts and eliminate the third one due to the help problem, and in some directions management in full-fashioned plants now is training women for jobs formerly handled by men. Leading manufacturers are featuring hose dyed darker shades than seen for years. Gotham, for example, showed new blues, blacks and browns in this category that attracted attention and other manufacturers have been following the trend. Specific dollars-and-cents ceilings for the sale of women's nylon hosiery were issued late last month by Price Administrator Leon Henderson, resulting in sharp cuts in the retail tags where in some instances the OPA claimed that "inflated" prices were reached. Manufacturers' and wholesalers' ceilings showed little change in the new list. Shipments of rayon constructions in September represented 82 per cent of the total while those in cotton constructions amounted to 7 per cent with silk and nylon totaling 8 per cent. Retailers report consumers are having better results with rayon numbers largely due to their better handling of them after washing and also because knitters and yarn firms continue to make improvements in these lines.

Half-Hose

Shipments of half-hose and slacks have been running 5 per cent ahead of the same period in 1941 although in September this dropped to a 2 per cent gain compared with the same month a year previous. During the first nine months of this year shipments of the short or slack type were up more than 12 per cent compared with the same period last year, indicating these were in better demand relatively than the regular length socks. With the Government interested in saving time and materials there are rumors that more of the slack length will be ordered in this country as has been true already in England where socks even shorter than slacks are in production under Government supervision. Indications are the minimum wage level for the seamless hose industry will be officially raised from 36 cents per hour to 40 cents by next January 4 because the industry committee for this branch of the industry has made such a recommendation, as was expected, so that it will probably go into effect after a routine public hearing on the matter. Army has been a heavy buyer of light wool socks this month, having opened bids November 9 on 22,500,000 pairs which are to be shipped over the next five or six months.

Seamless

Women's seamless hose has not been as active as in previous months, the last report by the National Association of Hosiery Manufacturers showing that in September such shipments dropped almost 28 per cent compared with the same 1941 month and for the first nine months of this year such shipments registered a decline of more than 3 per cent. The year has been marked by a very sharp drop in silk seamless but rayon seamless shipments in the first nine months gained more than 70 per cent. Anklets have been in good request this year with shipments at the last report being up more than 15 per cent compared with the first nine months of last year. A soft spot in the seamless hose market this year has been in the knee-length or campus hose which in the first nine months suffered a drop in shipments of more than 50 per cent. This trend was even sharper in September; when compared with the same month in 1941 shipments were off almost 80 per cent. Athletic socks have been active most of the year this being reflected in a 12 per cent gain in shipments but in the last few months this trend has been stopped so that in September they were off more than 23 per cent.

Underwear

Knit underwear shipments and production have dropped off so that these are somewhat under this time a year ago. Data for September show that shipments of knit cotton and wool types were 2,794,563 compared with

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AT HOME AND ACROSS THE WORLD...ON LAND, AT SEA, AND IN THE AIR... COLGATE-PALMOLIVE-PEET PRODUCTS ARE HELPING TO CRUSH THE AXIS!

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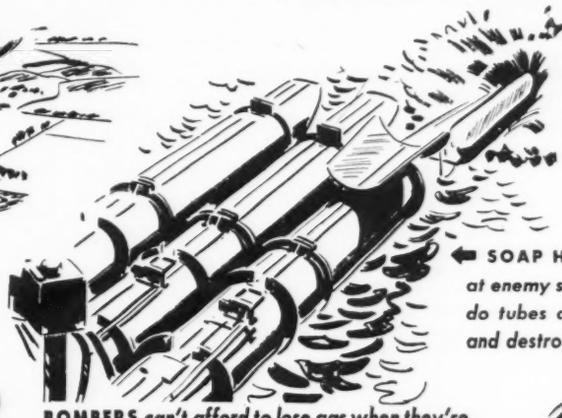
SHELLS *of many kinds and caliber . . . shrapnel and high explosive . . . require soap in the drawing operation!*



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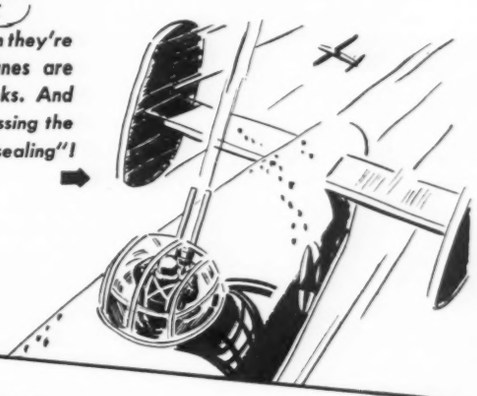
BOMBERS *can't afford to lose gas when they're on a mission. Modern American planes are equipped with "self-sealing" gas tanks. And soap plays an important part in processing the materials that make these tanks "self-sealing"!*



SPECIAL *salt-water soap for showers . . . for hand laundering and general cleaning . . . is used aboard all U.S. Navy Ships!*

EVEN THE 'CHUTES *our Paratroops wear owe much of their strength to soap. For the material from which these parachutes are made is processed with infinite care, both before and after the fabric is woven—with soap!*

• If you find occasionally that an order is delayed, or not filled 100%, we hope you'll understand that it's *only because the nation's war needs must come first!* For Colgate-Palmolive-Peet Co. is straining every facility, not only to supply vital soap and soap by-products to the production and fighting fronts, but also to keep its regular customers supplied!

COLGATE–PALMOLIVE–PEET CO.

INDUSTRIAL DEPT. **JERSEY CITY, N. J.**

FORECAST

(Opinion submitted by COTTON'S market correspondent)

Philadelphia, November 16, 1942

THERE HAVE BEEN two events of the last month which will have far-reaching effects upon the world and also upon business in the United States. Both of these are favorable. The first was the election results which in most sections were felt to be a leaning of the voters to a more conservative policy so that business in the coming months is apt to consider its treatment at the hands of the Government as fairer than at times past in the last nine years. Some in the textile industry have said that we are apt to see less consideration of business legislation, that these factors in the past have claimed to trend toward state socialism.

In the second place has been the improvement in war news which to many managers indicates that the war will be over in a much shorter time than was predicted six months ago. At that time some made the assertion that the war would last up to ten years which American business would fear to contemplate at the present rate of spending in this country. In other words, many then felt that if the war were to last for that length of time the whole civilization of this country as well as that of most of the world would change drastically.

Since the situation in Africa has changed and other war news has improved from the standpoint of the United Nations, the so-called experts have said the war might end within a year. These two world-shaking events have not yet been fully discounted and many feel that their real significance will be seen in the coming weeks to a greater extent than in the last couple. But at the same time there are other problems that now arise in the minds of manufacturers in view of the new world-situation. One of these has been apparent in the textile field in the last few days and that is for more manufacturers to begin to think of their situation should the war end now.

This psychology has resulted in some cotton yarn producers, for example, adopting a new policy of not selling their product too far ahead. These factors that in the immediate past have been selling as far ahead as their customers wanted to buy now are refusing in some instances to sell further ahead than the end of this year. They say they mean from now on to maintain a more liquid position regarding unfilled balances so that if a period of readjustment comes after the war they will be in a good position to face it.

It is generally agreed that the end of the war would see a period of unpredictable length during which a sharp readjustment would have to be made from a war to a peace time basis. This would be more drastic for firms that are making such lines as powder while most feel such a period of readjustment would be less painful for textile manufacturers which are now affected mainly by the large quantities being bought for the armed forces. It is not known what the Government would do with its stocks but it is probable these would be handled so as not to cripple peace-time industry and it is also considered likely this country for some time will continue lease-lend to help our Allies even after the war.

3,048,489 in the same 1941 month while production this September was also off slightly. But orders on hand at the end of that month showed only a small reduction compared with the previous September. In the meantime, there is a sharp expansion in retail sales of wool and part-wool underwear with some large retail outlets stating their dollar sales are up about 50 per cent and showing every indication of expanding further. So much of the public is buying this type underwear for the first time that many are taken back when quoted prices on large wool percentage types so that this is having the tendency to bring such buyers down into the 25 or 10 per cent wool types but retailers say most feel that the 10 per cent wool content is too low and that the 25 per cent should be about the minimum to give the best service in cold weather. Manufacturers have been holding meetings with the intent of simplifying their styles. Many knitters have been interested in this matter for some time and it is also believed such a movement will have the support of most retailers. Manufacturers are not offering their goods freely to civilian buyers for the coming spring season but where such allotments have been made the results have been good.

Seamless Hosiery Pay Rise Voted

The seamless hosiery industry committee under the Fair Labor Standards Act has unanimously recommended an increase in the minimum wage for seamless workers from 36 to 40 cents an hour. Full-fashioned hosiery workers are already earning the 40-cent minimum. The nine-member committee acted immediately after Earl Constantine, president of the National Association of Hosiery Manufacturers, said that his organization favored the rise, he being the only witness to appear before the committee which suggested to the Wage-Hour Division that the increase be effective January 4 of next year. The announcement was made by G. Allen Dash, Jr., chairman of the seamless committee, whose manufacturer representatives are J. Lee Bausher, J. C. Greer and W. W. Neal. The group also suggested to the administrator that he consult with the War Labor Board in regard to a readjustment of piece rates in connection with the wage rise. L. Metcalfe Walling, administrator of the wage-and-hour and public contracts divisions of the Department of Labor, designated November 24 as the date on which a public hearing on the matter will be held. It is generally felt that such a public hearing will be more of a formality so that the wage rise will unquestionably go in effect as outlined.

Grants More Wool for Knitted Goods

To help keep Americans warm this winter, the War Production Board recently ordered an additional 6,000,000 pounds of wool, clean basis, made available for the manufacture of sweaters, shawls and knitted underwear. This wool is over and above yarn currently going into the production of knitted goods. To take advantage of the action, manufacturers must put the yarn into process by January 15. Release of the wool for the manufacture of yarn was ordered in Amendment 3 to Order M-73 and is subject to the following restrictions: The additional wool must not exceed 10 per cent of the manufacturer's basic quarterly poundage; only orders for yarn for sweaters, shawls and underwear placed after October 31, 1942, can benefit from the amendment; the purchaser of the yarn must certify that the yarn will be put into process prior to January 15, 1943, and that it will be used only for the manufacture of machine knitted sweaters, shawls or underwear containing not more than 65 per cent wool; persons putting wool into process under these conditions must make monthly reports to the WPB. Release of this wool will enable worsted spinners to maintain production when military demand for the types going into uniforms has temporarily relaxed.

Yarn Scarcity to Simplify Hose

National Association of Hosiery Manufacturers announced that five branch committees will shortly be created for the specific purpose of developing simplified lines of construction to be submitted for consideration of the War Production Board. The hosiery industry, like many other consumer goods industry, is facing increased problems arising out of a relative scarcity of yarns and materials. Such a situation can be improved in part, the national association said, by

To establish a name for quality in sweaters a mill must offer more than good style and design—it must offer fine knitting also. For knitting is the bedrock on which successful sweater merchandising is based. Let Torrington Needles help you reach and maintain the standards that create prestige. Torringtons are the machine-made needles, the precision-manufactured leaders upon which you can rely for accurate production at high speeds. Many of America's great mills use them in every type of work always to protect their reputations for quality knitting.

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TODAY it may be an anti-tank gun, stripped for check-up... tomorrow, the still-warm "heart" of a fighter plane. So it goes. Fighting equipment gets tough treatment in modern warfare. So the need for frequent servicing and constant parts replacement is understandable, under such conditions.

But there is one vital part which maintenance men seldom have to touch, although they notice it often enough. The Torrington Needle Bearing, "changed over" to production-for-war, is again demonstrating its efficiency—and adaptability—in applications where its unique advantages mean more today than ever.

Its efficient system of lubrication, for example, which requires only occasional oiling, is reducing the need for maintenance attention or replacement. Its high capacity assures long bearing life, even in continuous operation under heavy loads.

Every feature of the Needle Bearing, significantly, is filling some important wartime need. Its small size is saving weight and critical materials; its remarkable ease of installation is cutting assembly time; its simplified design is eliminating extra parts and assembly steps, with low coefficient of friction assuring smooth performance.

When Victory may hang on the amount of time it takes to service fighting equipment, it is not surprising that maintenance men these days are finding Torrington Needle Bearings in more and more of America's war materiel.

IF YOU HAVE A PROBLEM *which the Needle Bearing might solve, Torrington engineers can be of valuable assistance in adapting its advantages to your needs. You are welcome to their experience, as well as the information on Needle Bearing capacities and sizes in Catalog No. 115.*

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Every feature fills a wartime need

a simplified procedure which applies generally to all manufacturers. Any program of this character would have to be effectuated by Government orders, but in the preparation of any simplified procedure it is considered important that the knowledge and skill of the industry be drawn upon in order that the program shall be as practical as possible and shall fully take into consideration all of the important elements. The national association said it had assurances that the recommendations by the above committees will be welcomed by the authorities in Washington.

Increased Need for Learners Stressed

Increasing rates of labor turnover in different branches of the textile industry under current war conditions, were highlighted at a special hearing on the learner situation in New York City. The hearing was called by Administrator L. Metcalfe Walling of the wage-and-hour division, and was designed to bring out testimony as to whether the present learner situation applying to the textile industry should be increased. Earl Constantine, president of the National Association of Hosiery Manufacturers, in his testimony, told of the abnormal turnover in labor now existing in that industry. He counseled, however, that there be no change in the present learner rate of 5 per cent, except on a showing of cause in each individual case, in which event the Administrator should have the right to make an increase. In regard to the minimum wage rate in the seamless division, which at present has a learner minimum of 22½ cents an hour for the first 480-hour period and 27½ cents for the second 480-hour period, Mr. Constantine favored a rate based on 75 per cent of the skilled rate for the first period and 85 per cent of the skilled rate for the second period.

Alfred Hoffman, vice-president of the American Federation of Hosiery Workers, testified that the present learner rule had in general worked satisfactorily for the industry and was generally satisfactory to labor. He told of the radical changes in the industry due to the war and the cutting down in the number of work-hours especially in the full-fashioned division. He also maintained that any changes made in the present system should be only made after a full investigation of individual plants. Mr. Hoffman likewise insisted that any change in the minimums for learners should be on the percentage basis of the basis for skilled workers and according to each learner period that is of 480 hours each.

Retail Nylon Hose Prices Cut Sharply

Price Administrator Leon Henderson on October 20 issued specific dollars-and-cents ceilings for the sale of women's nylon hosiery with retail levels reduced sharply from those that prevailed in most stores throughout the country. In the new list manufacturers' and wholesalers' ceilings showed little change from the previous maximums except that former "in line" prices have been translated into actual specific ceilings covering practically all constructions. The action was taken under Price Regulation No. 95 effective October 22. Retail prices were sharply reduced as may be seen from the OPA statement that "Instead of $2.50 and $2.95 a pair and even more in some cases, American women will not have to pay more than $1.65 a pair for the most commonly sold full-fashioned stockings of first quality construction (48-gauge or lower with nylon leg in all deniers).

Stating that "there are considerable stocks of nylon hosiery held by wholesalers and retailers for the holiday trade," Mr. Henderson explained that, "in the absence of action by my office these would be disposed of to women at fantastic prices, prices that would be inflationary and would yield unreasonable profits to the sellers." Mr. Henderson offered no sympathy for dealers who may have bought supplies at high prices in the so-called black market. He observed that it is possible some buyers for resale may be squeezed as a result of this ceiling.

Following are the new retail ceiling prices:

Construction	1st Qual.	Irreg.	2d Qual.
A. Circular knit, all types	$1.55	$1.40	$1.15
B. Full-fashioned hosiery—			
1. 48-Gauge and lower, all deniers			
(A) Nylon leg	1.65	1.50	1.25
(B) All nylon	1.85	1.65	1.40
2. 51-Gauge and 54-gauge			
(A) 30-Denier and coarser			
(1) Nylon leg	1.85	1.65	1.40
(2) All nylon	1.95	1.75	1.45
(B) Finer than 30-denier			
(1) Nylon leg	2.15	1.95	1.60
(2) All nylon	2.25	2.00	1.70
3. 57-gauge and higher, all deniers—			
(A) Nylon leg	2.50	2.25	1.90
(B) All nylon	2.50	2.25	1.90

Revives Dark Colors for Women's Hose

Gotham Hosiery Co., at a recent special showing of new rayon numbers, emphasized dark shades for stockings. Included in the new shades were rayon hose in blue, black and two shades of brown that matched new dress costumes. Its designer stated that it was recognized for some time that rayon stockings must be heavier if they were to wear well and also said that the sheer and light colored stockings did not harmonize with war-time clothes, especially the shorter evening dresses. The new rayons are the product of fine-gauge machines and made in many instances of 100-denier rather than 50-denier to give extra wear. The new Gotham numbers were priced to retail at $1.00 and $1.50 a pair.

Knit Underwear Shipments Drop

A decline in shipment and production in September, as well as a fall in stock and orders on hand at the mills, was recorded for cotton and wool knit underwear as compared with the corresponding month in the previous year, by the Department of Commerce. Shipments in September of this year amounted to 2,794,563 compared with 3,048,489 in September 1941; production was 2,585,105 this September compared with 2,623,865 a year previous; stocks, 2,920,499 compared with 3,041,350. Knitting machine activity in the underwear industry, as reported by 154 plants, showed that 14,122 were operating in September compared with 14,100 in the same month last year.

The underwear industry has been anticipating a move by the Government toward style simplification and standardization due to the war and has already done considerable research in preparation for such a move. The War Production Board has given official notice that styles should be simplified immediately. In view of this the Underwear Institute called a special series of meetings of manufacturers in the industry, starting November 4, to formulate a style simplification plan. It was understood in the market that a special committee of manufacturers, and President Roy Cheney of the institute, paid a visit to Canada in order to make a first-hand study of style simplification as it has developed there. This committee in addition to President Cheney was reported to consist of the following: E. L. Olrich of Munsingwear, Inc., T. H. Muller of Julius Kayser & Co., R. F. Gregory of C. C. Valentine & Co., Ralph Y. Cooper, of Coopers, Inc., E. D. Haight of E.-Z. Mills, A. H. Bahnson of Washington Mills Co., and Harry Wolf, of Coopers, Inc.

Worn Hosiery Collections Start

Conservation Division of WPB announced the collection of worn and discarded silk and nylon stockings, to be added to the nation's war supplies, would begin November 16. Under the collection plan, centers will be established in all retail stores having a women's and misses' hosiery department. These collection centers, desig-

nated as hosiery collection depots, will be situated at every women's and misses' hosiery counter. All women are asked to save, wash and take all worn and discarded silk and nylon stockings to any one of the retail stores collecting in their community. The individual retail store, after accumulating 100 pounds or more of these stockings, will pack them in a standard container and ship collect freight to Defense Supply Corporation, a subsidiary of the Reconstruction Finance Corporation, Washington. Where an individual retail store accumulates less than 100 pounds of hosiery, it will consult its local salvage committee and arrangements will be made to pick up the stockings. The plan will be continuous for the duration of the war but only women's worn and discarded, washed hosiery is wanted.

Fuel Conservation Helps Heavy Underwear Sales

With the arrival of cold weather in the East a boom in retail sales of wool and part-wool underwear, due to the fuel shortage and the rise of employment in war industries, has been apparent. Several local department stores report their volume in men's goods of wool content is running about 50 per cent ahead of this time last year with evidence this increase will gain as the season progresses. So unaccustomed is a great part of the public to buying wool-content underwear that a certain amount of resistance to prices prevails at the retail counter.

Principal buyers are women who are shopping for their husbands or other male relatives and the usual rule is for them to ask for all-wool numbers but finding prices high the buyer then inquires about underwear of 50 per cent wool and 50 per cent cotton, then about the 25 per cent wool and 75 per cent cotton. The latter type is outselling the former by about two to one. The 10 per cent wool numbers are in good demand but not to the extent of the 25 per cent wool numbers due to the belief that the small wool content provides little more protection than a heavy cotton garment. Union suits are in greater demand than last year.

Nat. Assn. Cites Nylon Hose Facts

National Association of Hosiery Manufacturers has cited a number of facts regarding nylon hosiery to offset "the confusion" about the present nylon hosiery situation. It stated about 250 hosiery plants have manufactured nylon stockings since this type yarn became available. Production of nylon hosiery during September 1942 totalled only 31,665 dozen pairs of a total production of women's hosiery of 4,312,180 dozen pairs. It added that nylon hosiery stocks in the hands of manufacturers at the beginning of October amounted to only 237,859 dozen pairs. It is estimated that by the end of the month these stocks were reduced to about 162,000 dozen pairs which it stated could not be reasonably referred to as evidence of any "hoarding" by the industry. It was also stated by the association, that the industry had accepted its problem of conversion from silk to nylon and later from nylon to rayon in good grace and without complaint so that it felt that the industry deserved encouragement and not criticism. This statement was made in view of assertions by certain representatives of OPA that efforts would be made to "smoke out" excess holdings by several in the industry.

Hose Shipments Hold Up Well

Shipments of all types of hosiery during the first nine months of the year showed little change compared with the same months in the previous year, being 1.4 per cent smaller this year. Total women's full-fashioned hosiery shipments for the first nine months of 1942 declined 21 per cent due to the large decrease in all-silk, all-nylon, and silk leg constructions which was offset only in part by increased shipments of rayon, cotton and nylon leg constructions. In the seamless branch all types of hosiery showed gains with the exception of women's seamless silks and knee-lengths, men's seamless silk and men's seamless nylon half-hose. Principal gains occurred in the following types: Women's seamless rayons and cottons, slack socks, athletic socks and anklets. Indications are the half-hose section of the industry will begin to show substantial increases in shipments over the coming months due to the large recent procurements of such lines by the Army Quartermaster Corps, the latest one of this type calling for 22,500,000 pairs of light wool socks. There is also the feeling in the trade that considerably larger amounts of hosiery for lease-lend shipments will be forthcoming shortly.

Name Knit Goods Advisory Group

Appointment of an advisory committee for the knit goods industry with James F. Neilds, Jr., chief of the underwear unit, as chairman, was announced by the Division of Industry Advisory Committees. Members of the committee are as follows: Ralph Y. Cooper, Coopers Inc., Kenosha, Wis.; Robert F. Gregory, New England Knitting Co., New York; George T. Jarvis, II, Elmira Knitting Mills, Elmira, N. Y.; Ralph M. Jones, Utica Knitting Co., Utica, N. Y.; Gordon Pannill, Pannill Knitting Co., Martinsville, Va.; E. T. Malone, Malone Knitting Co., Springfield, Mass.; T. H. Muller, Julius Kayser & Co., New York; A. B. Shaft, Minneapolis Knitting Works, Minneapolis; R. M. Wolfe, Glove Mills, Inc., Leesport, Pa.

F. F. Group Holds Election

George F. Lang was re-elected president of the Full-Fashioned Hosiery Manufacturers of America, Inc., at the annual meeting held in Philadelphia, October 21. Other officers chosen were: F. D. MacIver, Phoenix Hosiery Co., vice president; C. Y. Williams, Federal Knitting Co., treasurer; and Charles Lehmuth, administrative secretary. Five directors were elected for the three year term: Russell Boadwee, Julius Kayser & Co.; Henry J. Herbst, General Hosiery Co.; Benjamin Jacobs, Minisac Mills; and Messrs. Lang and MacIver. Two directors were elected to fill vacancies: Herman L. Miller, Bethayres Hosiery Mill and Joseph Givner, Real Silk Hosiery Mills.

Job Decline in Hosiery Reported

Employment in the full-fashioned hosiery industry during June 1942 was 67,200 workers, according to the Bureau of Labor Statistics, Federal Department of Labor. Employment in the seamless hosiery industry for the same month was 61,500 workers. The bureau's figures show a decline in full-fashioned employment from June 1941 of about 21,300 workers or a drop of 24 per cent. Seamless showed a drop in the same period of 4.7 per cent. The pattern of employment which over a two and a half year period traces seasonality and shows the effect of rubber freezing. The employment level prior to rubber freezing and price ceilings was 65,400 workers.

OPA Issues Ruling on Sheer Hosiery

Buyers of women's rayon sheer full-fashioned hosiery cannot be compelled to buy heavier styles in order to obtain delivery of finer goods, OPA announced. This ruling was made after reports reached OPA that some mills and wholesalers had adopted such methods of forcing buyers to accept merchandise which is not so desirable, in order to obtain scarcer goods. Any such practice of alloting sheer hosiery that, in effect, makes the selling terms more burdensome than those in force during March 1942, is a violation of the General Maximum Price Regulation, OPA said.

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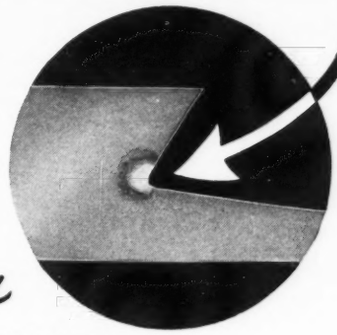

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TRENDS—YARN MARKETS

Resumption of Large Military Buying Brings Sales Cotton Yarn Market Back to Ceiling—American Rayon Yarn Production Hits New High in Third Quarter—Release of Additional Wool Will Help Knitting Yarn Spinners—Combed Cotton Yarns Remain Tight

Philadelphia, November 16, 1942

THE SALES cotton yarn market has trended strongly in favor of the seller over recent weeks, reversing the previous situation where lack of business in both the civilian and military lines resulted in almost three months of dullness. This had developed sub-ceiling selling by many cotton spinners especially in 20s two-ply but now most of this low selling has disappeared due to the large volume of new yarn business that has been placed in recent weeks. This situation only applied to the carded section because combed qualities maintained their tightness and this condition remains at present with prospects it will become even tighter for civilian yarn buyers due to coming expected larger Army needs. Rayon yarns are also tight for civilians due to the much larger demands for these types being made for war uses which are growing all the time. The government has released 6,000,000 additional pounds of wool for use in the manufacture of various kinds of knit goods so that sales worsted yarn spinners will benefit as they have also from larger military sweater and part-wool Army sock orders over the present month.

Cotton Yarns

There has been a distinct change in the cotton yarn market in the last two weeks due to the large amount of military buying of textiles that require both carded and combed yarn. Volume of this type buying has been so heavy that carded yarns previously selling considerably under the ceiling have snapped back to full ceiling prices in almost every instance. The situation now is that many carded yarn spinners are well sold ahead for the balance of this year and for the first few months of next year whereas up to a few weeks ago most carded spinners were in such great need of new business that they were willing to sell in some instances considerably under the ceiling. For example, last month producers of 20s two-ply carded were quoting as much as three cents under the ceiling and finding no buyers but now these spinners are in most instances quoting full ceiling prices.

A feature of the military buying which has been instrumental in bringing carded yarns back to the ceiling has been the exceptionally large amount of cotton duck being bought by the armed forces, several in the market estimating that in recent weeks the Army alone has placed contracts for approximately 200,000,000 yards of cotton duck. In addition the Navy and the Marine Corps have been buying medium-sized quantities of duck so that spinners making this type yarn are now well sold ahead, in some instances up to the middle of next year. Also affecting these coarse carded counts has been the development whereby mills making cotton tire cord fabric have recently been ordered to produce as much of this fabric as possible so that they are now unable to offer additional quantities of coarse carded yarns for making duck. These two trends have resulted in a definite hardening of prices in coarse yarns and buyers report that it is no longer a question of price but of obtaining deliveries at any price.

Another factor which has tended to bring carded prices back to the ceiling level has been the increase in overhead costs of spinners of both carded and combed. The complaint is general among them that because of the high labor turnover, due to their loss of so much help to the armed forces and to war contractors, the efficiency of many of their plants has dropped as much as 10 per cent. Several spinners have also found it necessary to eliminate the third shift due to this labor scarcity with a resultant increase in their costs, these being considerably higher on this basis than when three shifts a day were the rule. In another direction their costs have increased due to a widening of the differentials demanded for the various long staples required in the better carded and in combed yarns. These factors have been receiving the attention of spinners and manufacturers and it is probable such discussions will result shortly in a request of OPA for the proper ceiling relief.

Due to the change in the war situation the attitude of many buyers of cotton yarns has undergone a change in the last two weeks and whereas previously they were proceeding on the assumption that the war would be of long duration, they are now more reluctant to buy far ahead where yarn for civilian goods is concerned. One manufacturer of cotton tapes in this district who has in the last two years been long on cotton yarns has now decided that he will not buy more than three months ahead. There are also several spinners who are refusing to take orders more than three months ahead, feeling that if the war should end they would then be in a fairly liquid position and able to cope with any period of readjustment. This conservative buying policy is not a factor in yarns covering military goods as in such cases both manufacturer and spinner appear anxious to cover the entire goods order at the time it is placed with suitable yarns.

Rayons

The amount of rayon yarn that is being used in military goods is increasing by leaps and bounds. When the United States first entered the war it was frequently commented upon that while large amounts of cotton, wool and silk were specified by the armed forces, very little rayon was called for. But this situation is changing rapidly and each week a new war use is found for rayon so that the outlook for makers of civilian goods, such as the hosiery industry, is becoming more uncertain from day to day. With rayon producers being instructed to convert additional machinery to the manufacture of high tenacity yarns for use in Army tires and with the use of this type yarn expanding in such cloths as Army uniform linings, civilian manufacturers are experiencing greater difficulty in obtaining adequate supplies. In this connection there is a fairly general belief in the market that by the middle of 1943 the hosiery industry will be confronted with a tight situation in respect to rayon yarn deliveries and it is also regarded as probable manufacturers by that time will be restricted to the coarser sizes, meaning that American women will have to adjust themselves to the use of much coarser stockings.

Increasing military needs together with heavy civilian demands caused American rayon production during the third quarter of the current year to break all previous quarterly records. This was the second consecutive quarter in which a new high was reached by the industry. Total production of rayon yarn and staple fiber in the third quarter was 159,400,000 pounds. This was an increase of one per cent over the previous high mark of 157,200,000 pounds established in the second quarter. Production of rayon for the first nine months of the current year amounted to 470,000,000 pounds, which was 9½ per cent above the 429,700,000 pounds produced in the same period last year.

Worsted Yarns

Spinners of worsted knitting yarns have been helped considerably by the WPB order releasing to the industry an additional 6,000,000 pounds of wool to go into the manufacture of sweaters, shawls and underwear. This has been accompanied by the procurement of sizable quantities of wool knitwear for use by the armed forces, the Philadelphia Army Quartermaster Depot within recent weeks having asked for bids on 3,000,000 worsted sweaters and 7,000,000 pairs of wool hose tops which are to be shipped abroad under lease-lend. These two developments have placed worsted knitting yarn spinners in a much better position but after being curtailed several of these plants are finding it difficult to attract their employes back, many now being at work in defense plants where the rate of pay is considerably higher than the worsted spinners can meet.

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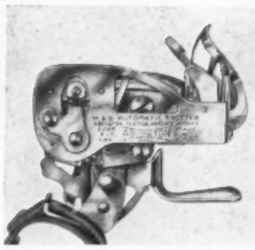

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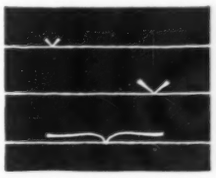

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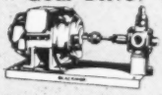

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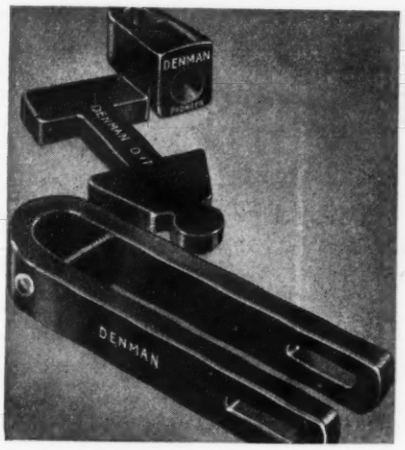

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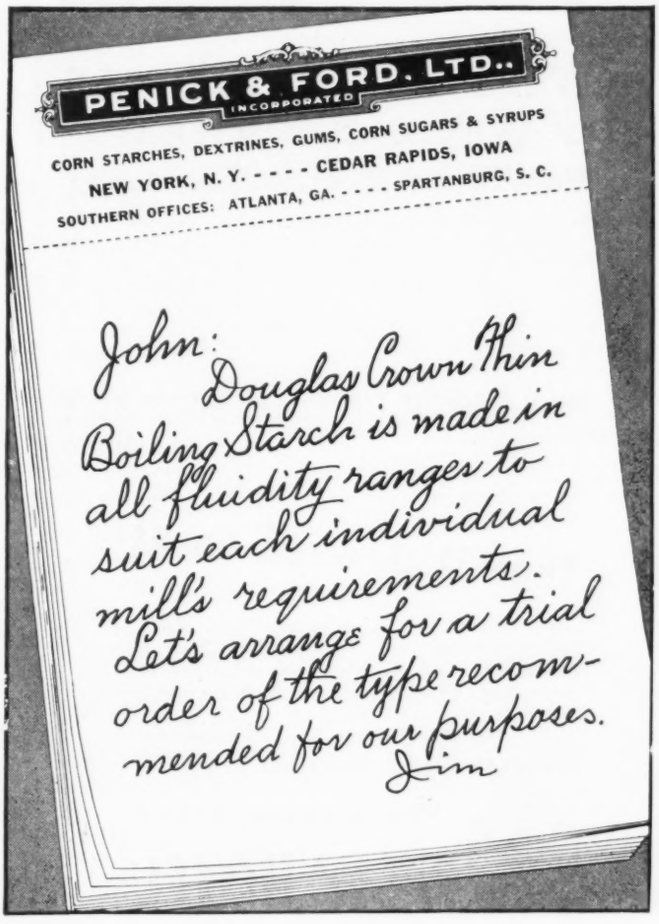
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Ring Travelers of greater stability are necessary. Wentworth Double Duty, Wentworth Gravity and Gravity Express meet these requirements.

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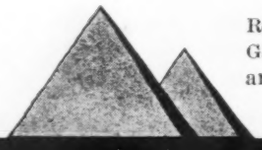
Maple, Beech, Birch, and Oak



Represented exclusively in the Southeast by Bright Brooks Lumber Co. *Main Office:* Savannah, Ga. *Branches:* Charlotte, N. C., by Geo. Roberts, and Atlanta, Ga., by Ray Cook. In New York and New England, by T. M. Ralston, New York City. In Philadelphia, by Geo. Lippincott.

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TEXTILE INDUSTRY RESEARCH
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CONSULTANTS ON TEXTILE MANUFACTURING
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LONGER LIFE—Spiral card brushes, refilled the Gastonia way, last from 10 to 15 years, compared with 2 or 3 years when staples are used—for STAPLES WILL NOT STAY PUT IN SOFT WOOD. Gastonia first dips the bristles and fiber in glue, then they are permanently **pegged** in.

BETTER FINISH—To prevent lint from collecting on rolls, Gastonia paints them with high-grade bobbin enamel, which dries to a hard, glossy finish.

Brushes can be refilled and returned in two days. Freight is paid one way.

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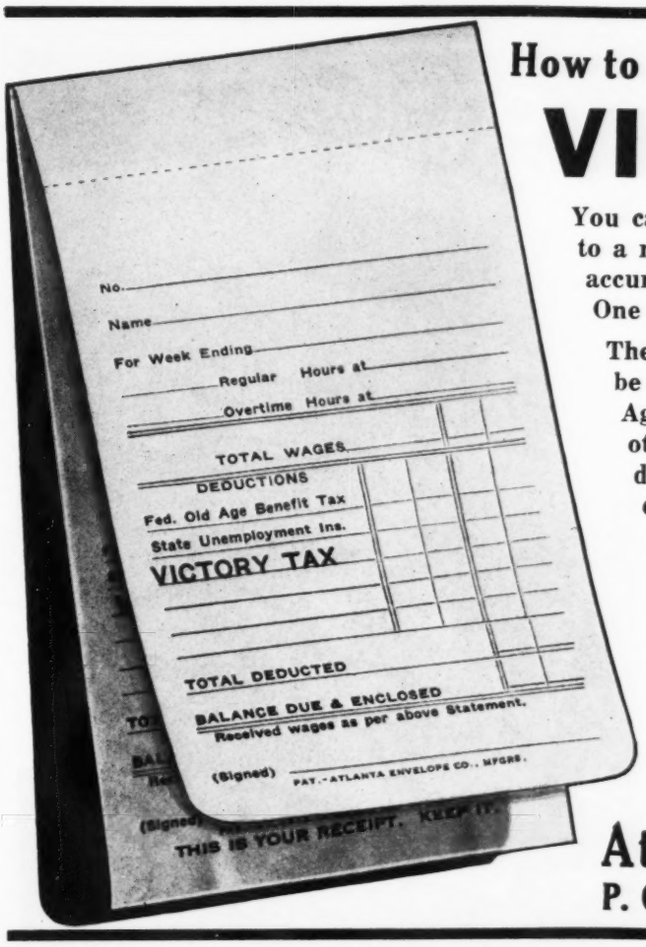

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The record for each employee and for yourself can be made simultaneously—at the same time Old Age Benefit, State Unemployment Insurance and other deductions are recorded. Each record is in duplicate. When the employee receives his pay envelope the flap is torn off and serves as a receipt for you as well as a record!

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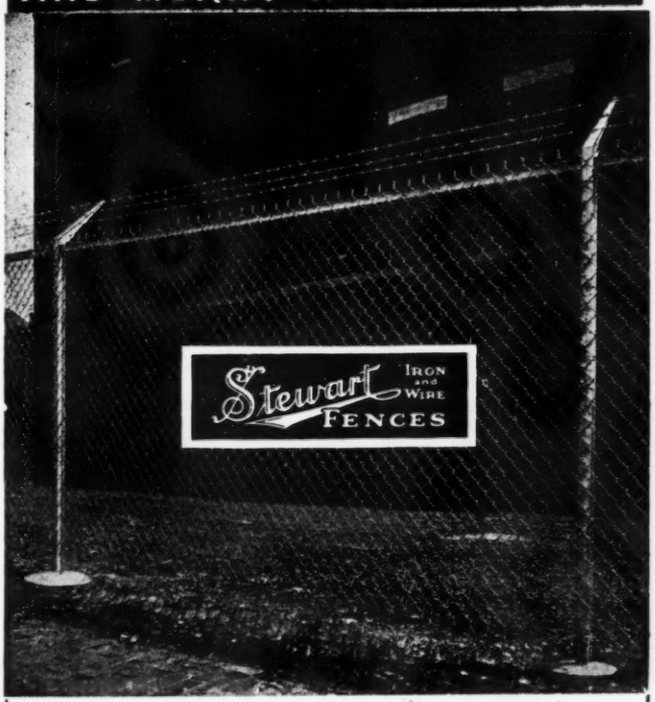

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Solve Floor Maintenance Problems

These modern, motor-driven machines are saving time, labor and money for mills everywhere.

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All Makes Half Laps and Top Combs for Cotton Combing

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In order that air lines may utilize cargo space more efficiently, shippers are urged to forward traffic earlier in the day, when more space is available than on night flights.

Taken from Boston News Bureau, August 22, 1942

You do not need a priority to ship by AIR EXPRESS, but if you have war production shipments requiring priorities, they will be granted. Phone Railway Express Agency, AIR EXPRESS DIVISION, or any air line.

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AIR EXPRESS

Division of RAILWAY EXPRESS

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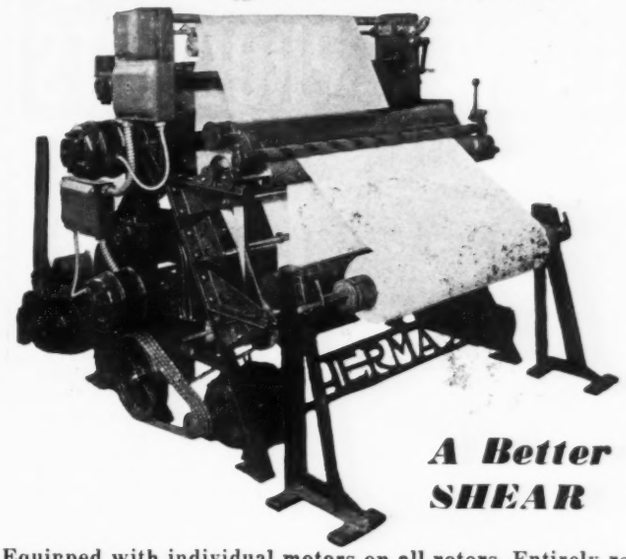

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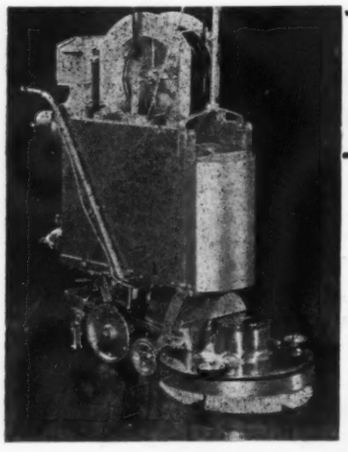

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Takes the narrow spinning machine lanes and weave room alleys as readily as the larger, open areas. And this *Finnell* scrubs, rinses, and dries the floor! For free floor survey, consultation, or literature, phone or write nearest *Finnell* branch or

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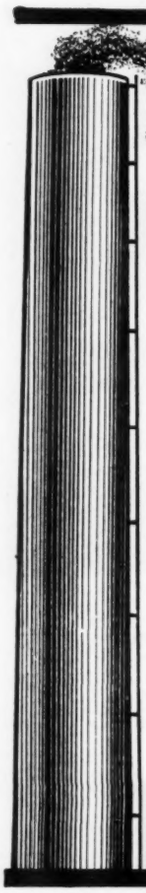

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Another Cole Product

Our various fabricated COLE steel products also include Smokestacks and Standpipes and you'll find them to stack up to your needs in every way. These stacks made to specification from your designs or ours, which our Engineering Department will gladly furnish. Put your Stack—also stack of problems—up to us.

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Spinning, Twister, Spooler and Quiller Cylinders—Card Screens—Picker Screens—Condenser Screens—Comber Tins—Waste Chutes—Lap Aprons—Aspirators

A Sheet Metal Works Serving Textile Plants

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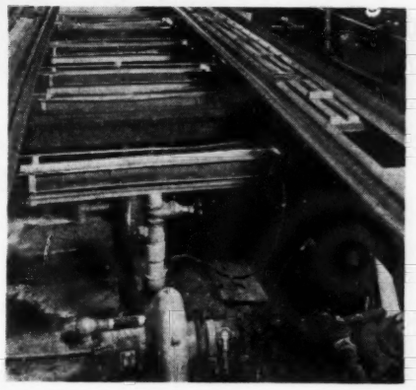

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2 to 5 TIMES FASTER

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Its absolute dependability in this respect has earned for Seyco Sizing such consumer acceptance that the plant in which it is produced is now the largest and most modern of any specializing in warp sizing.

Seyco Sizing is packed for convenience in tight, rust-proof, non-absorbing steel drums, which can be stored indefinitely.

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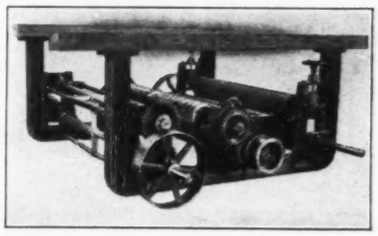

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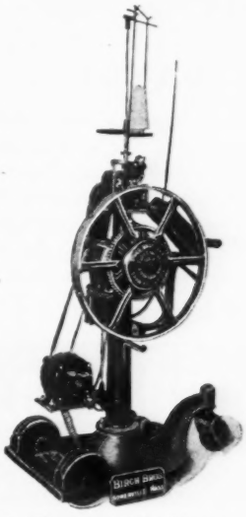

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Also other Sewing Machines

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2. "Supreme" Butt-Seam Gray Room (Patented).
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7. All made with motor drive when desired.
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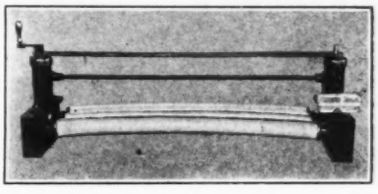

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While we expect to be busy indefinitely on War Orders—outside our Textile Machinery line we are still able to give you:

Prompt Service on Repair Parts for machines of our make or to your specifications.

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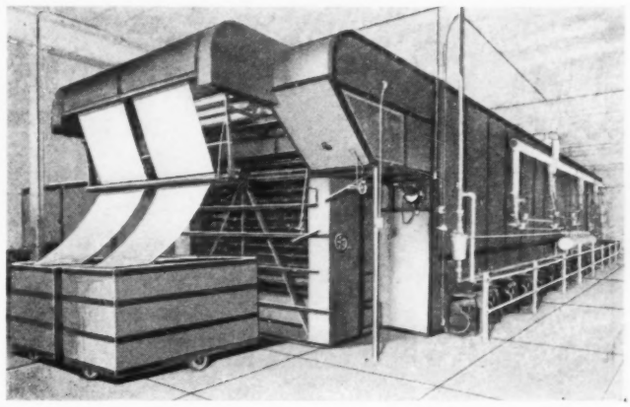

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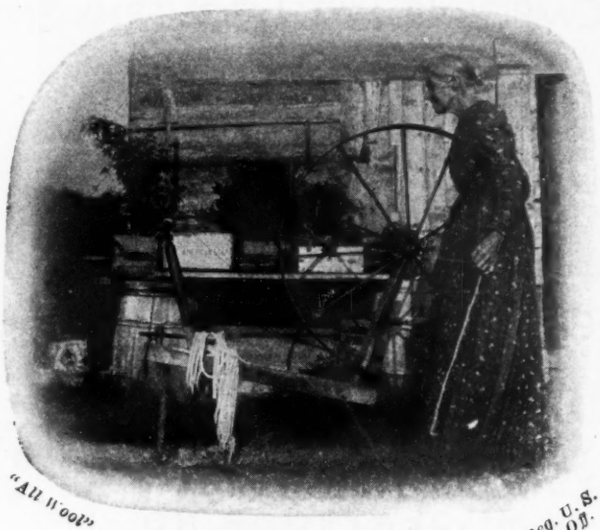

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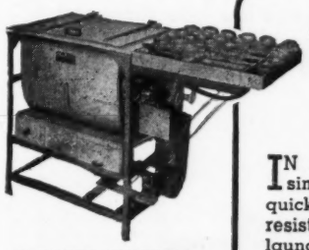
COTTON

Grant Building, Atlanta, Georgia

ATLAS-OMETERS



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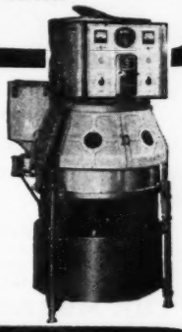
LAUNDER-OMETER — Standard laboratory washing machine of the A. A. T. C. C.— measures resistance to washing action, shrinking, staining, color fastness to soaps and solvents. All factors carefully controlled—can be produced exactly at any time.



FADE-OMETER—Rotates specimens around the Atlas Enclosed Violet Carbon Arc, the closest approach to natural sunlight. Temperature automatically controlled.

WEATHER-OMETER—Duplicates effect of actual exposure—months of sun, rain, heat and cold condensed to a few days.

ATLAS ELECTRIC DEVICES CO.
387 W. Superior St., Chicago, Illinois

ATLAS-OMETERS
LAUNDER-OMETER • FADE-OMETER • WEATHER-OMETER

STYLE 20.

LANE

The **IDEAL BASKET** for

LOOPERS

SEAMERS

RIBBERS

GENERAL

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Manufacturers : POUGHKEEPSIE, N. Y.

THE SEAL OF QUALITY AND SERVICE SINCE 1857

US

U S can help you!

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ALABAMA AGENT: Young & Vann Supply Co.
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Are creating real economies in many mills.

Request our trained representative to make a survey of your plant.

Recommendations will be made without obligation. Write

THE SELIG CO.

ATLANTA

Established 1838 — Incorporated 1894

TRADE MARK

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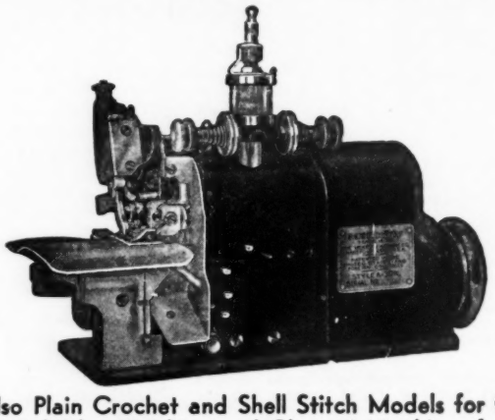
For Overseaming and Overedging with maximum efficiency at high speed and low operating cost modernize with the

MERROW CLASS A MACHINES



Also Plain Crochet and Shell Stitch Models for Ornamental Edge Finishing and Class 60 Machines for Butt Seaming.

—200 VARIETIES FOR 200 PURPOSES—

Write for details and let us demonstrate these machines on your own fabrics.

THE MERROW MACHINE COMPANY

Starting Its Second Century

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R. B. MORELAND, P. O. Box 895, ATLANTA, GEORGIA

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The Biltmore has 600 large, outside rooms —each with bath . . . There is ample parking space and excellent garage facilities . . . Popular prices prevail in dining room and coffee shop.

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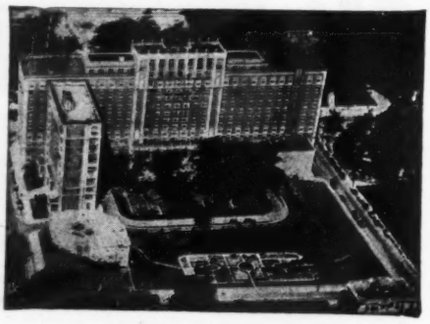

ATLANTA BILTMORE HOTEL

HOTEL PHILADELPHIAN

You will immediately sense and enjoy its old hospitable atmosphere which has marked this as a truly fine modern hotel. Located within a five-minute ride to everything worthwhile, and yet far away from disturbing city noises.

600 ROOMS *with bath* $3.00 *up*

COMFORTABLY AIR-CONDITIONED

Lounge and Restaurants

DANIEL CRAWFORD, JR., *Manager*

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REDUCE BREAKDOWNS on *Your* Textile Machinery...

Not only is it profitable to keep your textile machinery working for Victory, but also your patriotic duty. Here is what Secretary of the Navy Frank Knox says:

"... the great roar of the country's looms is as vital to victory as the rumble of the blast furnaces or the clatter of the riveting guns in our shipyards".

Frank Knox
Secretary, U. S. Navy

YOUR textile machines can be kept producing by using Henderson's ***better than original*** replacement parts because they are built to stand the gaff of long service. Points on various parts that receive hard or excessive wear are made sufficiently strong on Henderson's parts. True fit to your machinery is assured because castings are moulded from accurate patterns, and finished with precise machining. In fact, each step in the manufacture of Henderson's replacement parts is handled by men proficient at their work.

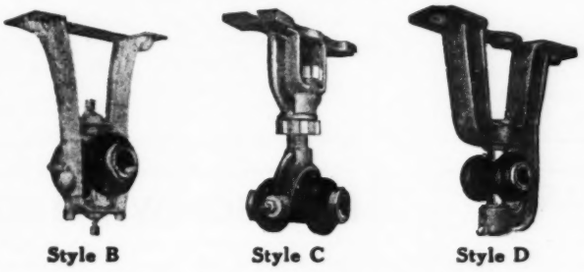
Next time you order repair parts for your textile machinery, specify Henderson's ***better than original*** repair parts for replacements that last!

Use Henderson Repair Parts FOR TEXTILE MACHINERY

HENDERSON FOUNDRY & MACHINE CO., HAMPTON, GA.

P.S. Keep on buying War Bonds!

They Fit Your Present Hanger Frames



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No new frames needed to change over to Chapman ball-bearing equipment! Labyrinth grease shield excludes dirt and moisture, prevents dripping and throwing. Balls used are approximately double the size used in any other make of ball bearing, thus providing heavier load carrying capacity.

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Chapman

TRANSMISSION CORPORATION
2280 Niagara St. Buffalo, New York

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WATER WHITE SILICATE

Best for Peroxide Bleaching

Crystal clear, stable, and free of harmful impurities, STANDARD "Water White" meets your most exacting demands. Peroxide bleaching baths controlled with this product give the uniform action that results in better whites always!

ALKALI

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STANDARD SILICATE DIVISION
GENERAL OFFICES: PITTSBURGH, PENNSYLVANIA
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BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

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10,000 gal. Tank on 57 ft. Tower
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25,000 gal. Tank on 75 ft. Tower
25,000 gal. Tank on 80 ft. Tower
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40,000 gal. Tank on 100 ft. Tower
50,000 gal. Tank on 75 ft. Tower
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20 Oil Storage, 8,000, 15,000, 20,000 and 25,000 gal. Capacity & Pumps.

2—50 ft. dia. by 30 ft. high, 10,500 Bbl. capacity Riveted Steel Tanks.

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for attractive positions now open in Southern mills.

Charles P. Raymond Service, Inc.
294 Washington Street
Boston, Mass.

Over 40 years' Confidential Employment Service for Textile Mills

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We have an opening on the editorial staff of COTTON for a man of proper qualifications. Must be not subject to current military service, should have good academic education and, preferably, background, training, and experience in textile manufacturing. Applicants should furnish full details of education and experience, schooling, and facts as to family circumstances, dependents, etc., and recent snapshot of self. *Apply by mail only.* Address: Robert W. Philip, Editor of COTTON, 1020 Grant Bldg., Atlanta, Ga.

WANTED:

Baling press; prefer Logemann; size about 14 MP; with platen and truck size about 36" x 54" and stroke about 36" or more. With or without motor. VISINET MILL, 2400 S. 2nd Street, St. Louis, Mo.

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A practical card room second-hand in modern up-to-date mill, located in South Carolina. Good chance for promotion for ambitious man. Address Box 605, c/o COTTON, 1020 Grant Bldg., Atlanta, Ga.

SALESMAN WANTED

Nationally prominent company has opening for salesman with following among southern cotton mills and finishers.

Must have technical education and mill experience in textiles and a good sales background.

Resident of the South preferred. In reply, give complete information covering experience, education, and salary desired. Address Box 606, care COTTON, Grant Bldg., Atlanta, Georgia.

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Overseer of spinning desires job as spinning overseer. 25 years of experience. Any make of frames. 46 years of age, draft exempt. Address Box 604, COTTON, 1020 Grant Bldg., Atlanta, Ga.

POSITION WANTED

Manufacturing executive with 22 years' experience in plush and tapestry manufacturing desires position as department head, assistant superintendent or assistant manager with well-established mill. Age, 40, married (three children under 18). Experience covers warp preparation, weaving both plain and Jacquard, mending and burling, piece and yarn dyeing, finishing and final inspection, plant and machinery layout and maintenance.

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Your Advertisement on This Page . . .

will produce results at small cost. Do you desire a position? Do you desire a good man to fill a vacancy in your mill? Do you desire your business or professional card placed before the textile industries?

Why not try an advertisement on this page of COTTON? Its 12,300 copies per month reach the textile executives, superintendents and heads of departments throughout the industry.

Send in your advertisement today.

COTTON

GRANT BUILDING ATLANTA, GEORGIA

Put 'em back to work **FAST**

In these times it is good judgment to buy platform trucks that can be renewed when worn instead of scrapped. One or all boards in Fairbanks Platform Trucks can be replaced easily and cheaply by removing a few bolts—no welding or cutting necessary.

Handles, racks and wheels also can be replaced or changed.

Fairbanks Trucks take the most brutal punishment without damage because platform is protected with heavy steel angle irons all around the outside.

Write for catalog No. 52.

THE FAIRBANKS COMPANY
18 East 4th St. New York, N. Y.
BOSTON, MASS., PITTSBURGH, PA.

Fairbanks PLATFORM, HAND and BOX TRUCKS

"HERE'S TO VICTORY!"

Throughout 1942 American production has worn the seven league boots of Industrial Progress . . . tremendous strides have been taken toward tomorrow's victory.

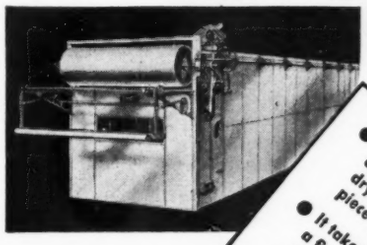
Dary's skilled workmen and representatives are proud to be a part of this gigantic production parade. They look forward to serving you in 1943 . . *On The Road To Victory!*

★

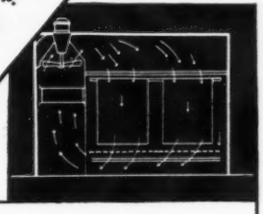
THE DARY RING TRAVELER CO.
TAUNTON, MASS.
See a Dary Representative TODAY!

JOHN E. HUMPHRIES, Box 843, Greenville, S. C.
JOHN H. O'NEILL, Box 720, Atlanta, Ga.
H. REID LOCKMAN, Box 515, Spartanburg, S. C.

PROCTOR *Loop* DRYER



- This is a completely new type of automatic loop or festoon dryer for drying dyed or finished piece goods without tension.
- It takes goods as it comes out of a finishing quetch, or in the case of dyed goods, from a truck.
- The material is carried through the dryer while heated air, circulated at high velocity by fans of special proctor design, is directed down into each loop.
- As the girts on which the goods is suspended move through the dryer, they revolve intermittently, so that no part of the goods is in contact with anything for any appreciable length of time.
- The New Proctor Loop Dryer assures perfectly uniform results and offers unheard-of capacity in a very compact unit.



PROCTOR & SCHWARTZ · INC · PHILADELPHIA

RAPIDASE

THE STANDARD DE-SIZING AGENT

for cottons, rayons and mixed goods

For your de-sizing problems— our technical men are at your service . . . Write or 'phone.

WALLERSTEIN COMPANY, INC.
180 MADISON AVENUE, NEW YORK

Step up your production

CHEMICALLY!

You are not only gearing yourself to attain 100% production levels — you are straining to produce if possible, even more! And, to make those plus quantities possible, chemistry can help.

For textile chemistry can and does facilitate speedier production, higher fabric standards, and cutting down of "seconds".

We shall be glad to help. Feel free to call upon the specialized services of Burkart-Schier's technicians and the facilities of our laboratory. Your inquiries will receive immediate attention.

BURK SCHIER

BURKART-SCHIER CHEMICAL CO.

MANUFACTURING CHEMISTS FOR THE TEXTILE INDUSTRY

CHATTANOOGA, TENNESSEE

AMERICAN COTTON

Cotton Freshness

... the new basic selling appeal for cotton featured every month in the national campaign of 12,000,000 cotton farmers and the American cotton industry.

JANUARY Page ad in January issue of *Good Housekeeping* will feature this basic selling theme for you in **WHITE GOODS.**

NATIONAL COTTON COUNCIL of AMERICA
COTTON-TEXTILE INSTITUTE

12-1

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Guide to Ring Quality

Never before has Ring Quality been of such importance. Today MAXIMUM production of textiles is a vital war need, and only with first class ring equipment can overseers push their spinning and twisting machinery to full capacity. Today DIAMOND FINISH rings are the finest in their 70-year history. In finish, hardness and advanced design, they represent the very peak of quality — permitting peak production!

WHITINSVILLE (MASS.)
SPINNING RING CO.
DIAMOND FINISH
Makers of Spinning and Twister Rings since 1873

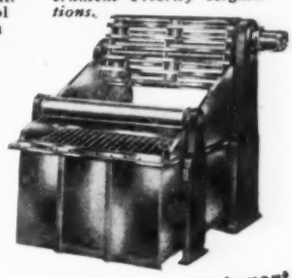
To Textile Dyers Doing A War Job...

IN CLEANING STAINLESS STEEL EQUIPMENT AVOID MATERIALS THAT CAUSE CORROSION

Do not use ordinary steel wool or steel brushes on stainless steel equipment. Steel particles rubbed off the steel wool or brushes may become imbedded in the stainless steel. The particles will rust and discolor the stainless steel surface and can be the focal point of serious corrosion.

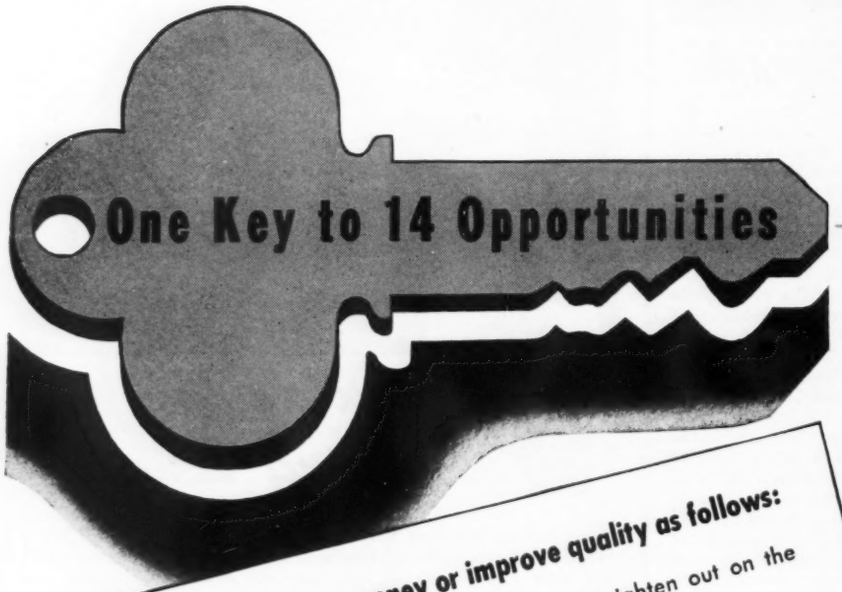
You can avoid the contamination of dye solutions by using only stainless steel wool or brushes for cleaning. Watching details like this will help you keep your equipment in good working condition for your wartime assignment. When maintenance problems arise let us know about them. Perhaps one of our engineers can give you a "helpful maintenance" suggestion.

All orders subject to Government Priority Regulations.



★ Specialists in Manufacture of Stainless Steel Dyeing Equipment

S. BLICKMAN, INC.
208 GREGORY AVE., WEEHAWKEN, N. J.
EST. 1887



THE KEY is A. P. T. Yarn Carriers for spinning, twisting or weaving of all fibres. Made of tough paper, wound and glued around a former, they are impregnated for water repellency and hardened by baking. Thus built around the hole, they are always concentric with the spindle. These facts result in—

14 opportunities to save money or improve quality as follows:

1. Perfect Balance. A. P. T. Carriers run true, reducing vibration and resultant wear.

2. Resist Distortion from changes in humidity and temperature, even normal steaming.

3. No Splinters. They always have a smooth hard surface which does not catch the yarn.

4. Free But Controlled Delivery. This is a natural result of a smooth surface, deep, well rounded corrugations and freedom from distortion.

5. Seldom Chip or Split, due to their "built up" construction,—layer on layer of tough paper.

6. Perfect Spindle Cling (due to resiliency), which eliminates slippage and reduces spindle wear.

7. Resiliency. Even if bent by abusive handling, these carriers will usually straighten out on the spindle.

8. Light Weight, which in some cases saves power.

9. Great Strength in view of their light weight. They do not have to be handled "with kid gloves".

10. Long Life, resulting from their strength and resistance to distortion, splintering, etc.

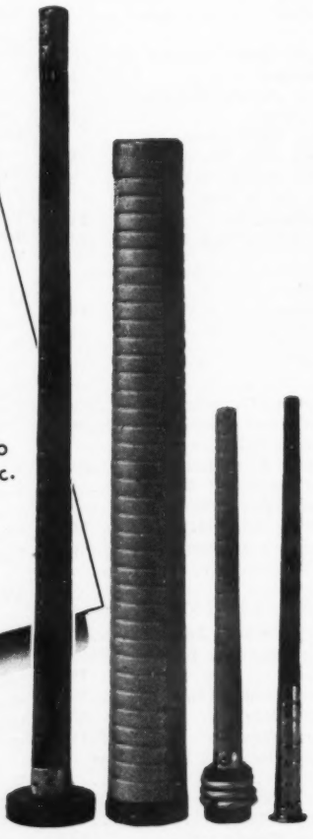
11. No Static, which is a great advantage in some instances.

12. Larger Capacity in some cases due to comparatively thin wall and small diameters (if desired).

13. Yarn Protection due to freedom from splinters or rough spots.

14. Ultimate Low Cost due to operation economies, long life, etc.

Investigate. See if A. P. T. Carriers will open these opportunities for YOU.



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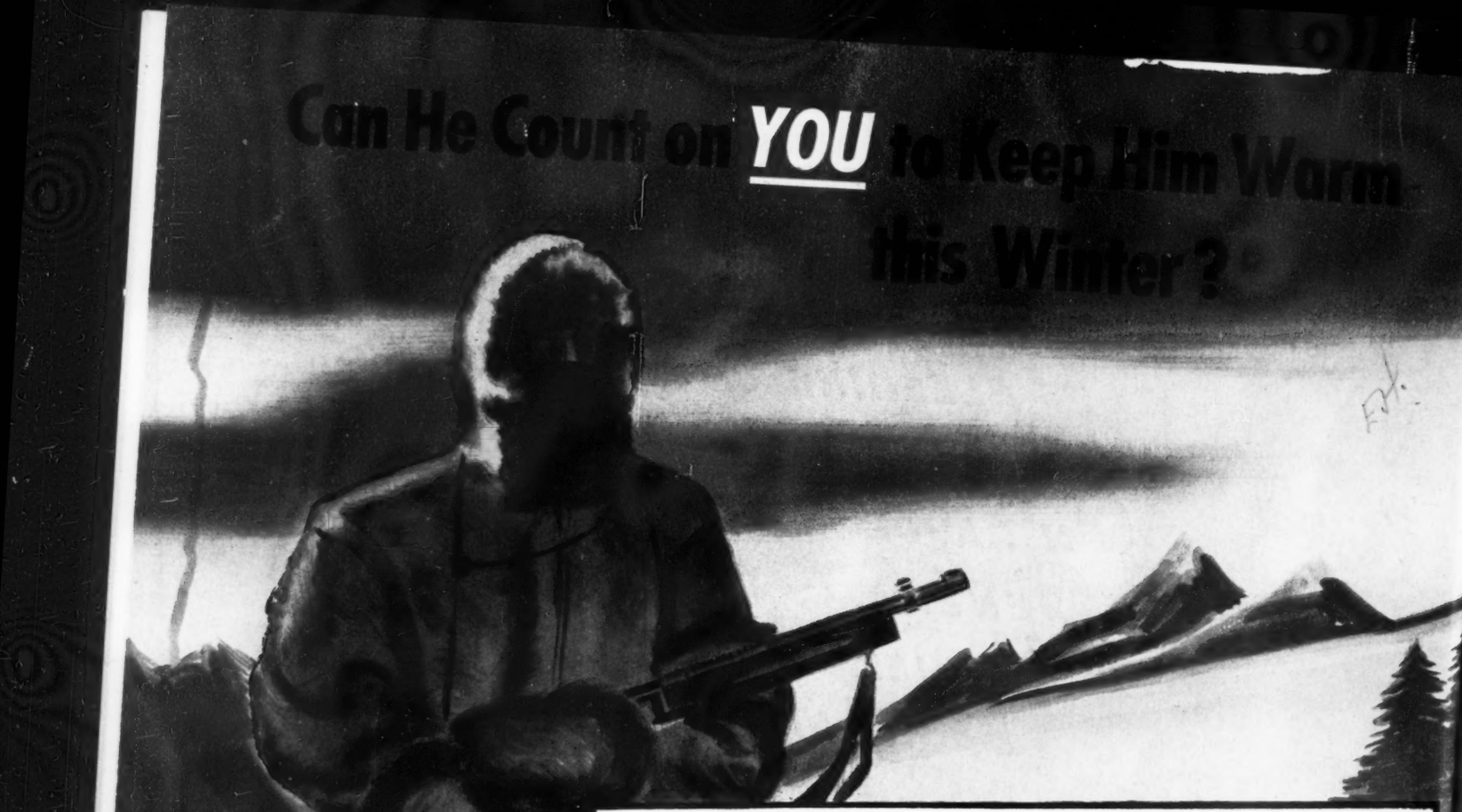

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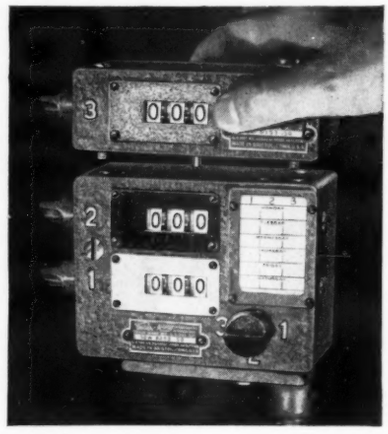

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